

County Borough



of Blackburn.

Annual Report

upon the

Health of Blackburn

For the Year 1906,

by

Alfred Greenwood, M.D.,

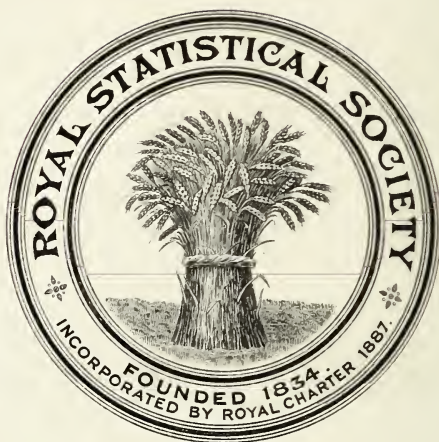
D.P.H., etc.,

*Medical Officer of Health, Medical Superintendent to the Fever and
Smallpox Hospitals and Medical Officer to the Education
Committee.*



Blackburn :

The "Times" Printing Works, Northgate.





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CORPORATION OF BLACKBURN.



Members of the Health Committee.



THE MAYOR (F. T. THOMAS, ESQ)

ALDERMEN :

GARSDEN (<i>Chairman</i>)	||	NEWTON
BILLINGTON	||	WATSON

COUNCILLORS :

GREEVES (<i>Vice-Chairman</i>)	||	WARD
HEATLEY	||	RAMSBOTTOM
JOHNSON	||	GREENSMITH
M. SHORROCK		HIGHAM
TAYLOR		BECKETT
MARSDEN		DAWSON
RAMSAY		LONSDALE
		HAMER

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The Local Government Board Tables and the Classification of all the Deaths in the Borough are appended to this Report.

Statistical Summary for 1906.



Area of Borough.....	7,431 acres
Population at Census, 1901	127,626
Estimated Population to middle of 1906	133,583
Average Number of Persons per acre.....	17'9
Birth-Rate per 1,000 living	25'5
Death-Rate ,,	16'4
,, from Zymotic Diseases	2'4
Infant Mortality per 1,000 Births	155'9
Total Occupied Houses at 1901 Census... ..	27,756
Plans of New Buildings Passed	244
Rateable Value	£536.509

PUBLIC HEALTH OFFICE,

BLACKBURN,

January 18th, 1907.

To the Chairman and Members of the Health Committee
of the County Borough of Blackburn.

Mr. Chairman and Gentlemen,

I have the honour to submit to you, in accordance with the regulations of the Local Government Board, my fifth Annual Report on the Health and Sanitary Condition of the Borough for the year ending December 31st, 1906.

The Report contains the Birth and Death Statistics, the measures adopted for the prevention of disease, and the work carried out by this Department.

I thank you for the encouragement and support which you have always given to me.

I am, Mr. Chairman and Gentlemen,

Your obedient servant,

ALFRED GREENWOOD.

REPORT

OF THE

Medical Officer of Health

FOR 1906.

Blackburn is situated chiefly in the valley of the Blakewater, and to a much smaller extent in the valley of the Darwen.

The following are the heights above sea-level in various parts of the town:—

Town Hall	377 feet.
Revidge	715 „
Witton	318 „
Intack	483 „
Infirmary	402 „
Station	360 „
Fever Hospital	560 „

The rivers join on the western boundary of the borough. On the north side of the Blakewater the land rises after the first few hundred yards rapidly from a height of about 300 to a height of 700 feet. To the south and west of the River Darwen there is also a fairly rapid rise from a height of 300 to 600 feet. The land between the two rivers has at first no great inclination, but towards the south-east it rises rapidly to a height of 650 feet. On the north side the gradients are as high in one or two instances as 1 in 7, and 1 in 10 or 12 are not uncommon. On the south side the steepest slope is 1 in 10. The fall of the valley of the Blakewater is 86 feet in $2\frac{1}{4}$ miles or 1 in 138. With few exceptions the falls in the town may be considered good. The deep strata underlying the town are principally the Lower Coal

Measures or Gannister Beds. There is a narrow strip of Alluvium in the valley of the Darwen, and Millstone Grit (rock and shale) comes to the surface on the northern side of the borough over a considerable area, and to a very small extent on the southern side. The Gannister Beds underlie nearly the whole of the town proper, and those parts which have Millstone Grit for their deep strata are chiefly agricultural land. With one or two small exceptions the deep strata are covered with drift beds. Throughout the greater part of the borough the drift beds are principally composed of clay. There is, however, a considerable piece of land in the centre of the town covered with a good depth of pure sand. I cannot map it out correctly, but it includes the land on which the Town Hall, the Market House, the Parish Church, and the Railway Station are built. It extends northwards as far as Regent Street and Richmond Terrace. To the west it extends as a narrow elongated strip as far as Witton Stocks.

This district can be understood better by referring to the Enumeration District Map.* The districts which have sandy subsoil are Nos. 5, 6, 41, 42 in the Southern Division, Nos. 19, 32, 33, 34 in the Northern Division, and No. 2 in the Witton and Livesey Division; and besides these Nos. 43, 44, 45 in the Southern Division, Nos. 28, 31 in the Northern Division, and Nos. 3, 4, and 6 in the Witton and Livesey Division, are partly sand and partly clay. The sand varies considerably in its purity in different localities. In the neighbourhood of Church Street, Mincing Lane, Weir Street, Clayton Street, and King Street it is of a clean reddish colour, and reaches, in some instances, to a depth of 15 to 20 feet, or possibly more. In the neighbourhood of Galligreaves Street and between Galligreaves Street and Whalley Banks, the sand was originally overlaid with a varying thickness of clay, but this was mostly removed before the land was built upon. To the south of Bank Top and Redlam the subsoil is composed mostly of a mixture of sand, gravel, and clay. whilst to the north of Bank Top and Redlam, as far as the

*This Map has been remodelled in accordance with the 1901 Census results—including the added area—and will be found at the end of the Report.

River Blakewater, the subsoil is much purer sand. Over the remainder of the town the drift beds are mostly clay, or clay and gravel.

Millstone Grit comes to the surface along Revidge Road, and to some extent on both sides of the road, but principally to the south. The deep strata are of interest chiefly from the water which is derived from them. The superficial strata or drift beds which form the subsoil are of great importance. Upon its character the dryness of the locality depends to a great extent, and frequently the dryness of the houses built upon it. It has also a very distinct bearing upon all diseases, which are due to soil pollution, and also upon those diseases which are due to damp and cold.

POPULATION.

The statistics contained in this Report are based upon the population estimated to the middle of 1906, viz., 133,583.

The desirability of the accuracy of this figure is obvious, as upon it depend the various death-rates, etc.

Such accuracy will diminish yearly until the next Census in 1911, and as has been pointed out frequently, the difficulty would be met, to a great extent, by the institution of a Quinquennial Census. This would have involved a Census in the year 1906, and would have obviated some inaccuracy of statistics from now until 1911. It would also facilitate greatly any local or general comparisons.

The increase in the population of Blackburn from 1841 to 1906 may be seen in Table V.

TABLE I.

YEAR.	Population at Census.	BIRTHS.	DEATHS.	Natural Increase in 10 year periods, also expressed as percentage of population.	Excess of Immigration over Emigration in 10 year periods, also expressed as a percentage of population.	Total Increase in 10 year periods, also expressed as a percentage of the population.
1841	36,629		955			
1842			945			
1843			1220			
1844			1143			
1845			1124			
1846			1488			
1847			1445			
1848			1214			
1849			1125			
1850			1315			
1851	46,536	2035	1264			
1852		2000	1697			
1853		2130	1758			
1854		2241	1320			
1855		2181	1781	6859	9731	16590
1856		2324	1330	14.7 %	20.9 %	35.6 %
1857		2372	1824			
1858		2277	1847			
1859		2479	1547			
1860		2675	1487			
1861	63,126	2773	1774			
1862		2754	1815			
1863		2568	1440			
1864		2730	1746			
1865		2737	1881	9211	4002	13213
1866		2775	2146	14.5 %	6.3 %	20.9 %
1867		2915	1867			
1868		3155	1961			
1869		3007	2337			
1870		3082	2318			
1871	76,339	3166	2033			
1872		3463	2050			

TABLE I—Continued.

YEAR.	Population at Census.	BIRTHS.	DEATHS.	Natural Increase in 10 year periods, also expressed as percentage of population.	Excess of Immigration over Emigration in 10 year periods, also expressed as a percentage of population.	Total Increase in 10 year periods, also expressed as a percentage of the population.
1873		3227	2462			
1874		3305	2432			
1875		3412	2200			
1876		3425	2435	10820	16855	27675*
1877		3518	2134	14'1 %	less	less
1878		3456	2742		12056 =	12056 =
1879		3418	2174		4799 or	15619 or
1880		3386	2294		6'2 %	20'4 %
1881	104,014	3919	2431			
1882		3918	2665			
1883		4305	2660			
1884		4132	2663			
1885		4000	2452			
1886		4004	2863	13186	2864	16050
1887		4164	2974	12'6 %	2'7 %	15'4 %
1888		4111	2865			
1889		4150	3077			
1890		4015	2882			
1891	120,064	4085	3116			
1892		3883	2551			
1893		3822	2793			
1894		3621	2173			
1895		3899	3084	10853	-3291	7562
1896		3552	2269	9'04 %	-2'7 %	6'3 %
1897		3629	2529			
1898		3662	2439			
1899		3643	2607			
1900		3438	2820			
1901	127,626	3386	2495			
1902		3357	2247			
1903		3304	2069			
1904		3100	2274			
1905		3193	2183			
1906		3418	2193			

* The population of the added portions of Witton, Livesey, Lower Darwen and Little Harwood are here deducted.

Between 1871 and 1881 the following additions were made to the Borough. In July, 1877: Livesey (part of) 4449; Witton (part of) 4180; Little Harwood (part of) 33. In July, 1879, Lower Darwen (part of) 2712; Little Harwood (part of) 682.

In November, 1901, parts of Witton and Livesey were added to the Borough.

TABLE II.

Age Periods.	Population estimated to the middle of 1906.	
	M	F
Under 5	6393	6320
5 — 15	12629	13728
15 — 25	12665	15504
25 — 35	9793	12386
35 — 45	8522	10373
45 — 55	5984	6872
55 — 65	3460	4331
65 — 75	1498	2120
75 and upwards	394	611
Total.....	61338	72245

MARRIAGES.

The number of Marriages solemnised within the Borough of Blackburn during 1906 was 1,281.

Of these 656 took place in the Established Churches, and 624 in Nonconformist places of worship and at the Register Office.

There was also one marriage in the Jewish Synagogue.

The annual rate of persons married per 1,000 of the population was 19.1 during the year 1906.

The marriage rates for the four previous years were as follows :—

1902	17.3
1903	16.1
1904	17.7
1905	19.4

Therefore there has been a distinct rise in the marriage rate of the borough during the last two years. The increased marriage rate appears to correspond with the prosperous state of trade.

BIRTHS.

The number of Births registered during the year was 3,418, of which 1,730 were males and 1,688 females, equal to a birth-rate of 25.5 per 1,000.

The birth-rate for 1905 was 24.0 per 1,000.

Of the 3,418 Births, 134 were illegitimate, equal to a percentage of 3.9. Similar percentages for the years 1904 and 1905 were 4.4 and 3.8 respectively.

During the year inquiries have been made for the first time respecting the Illegitimate Births. The results of such inquiries are set forth in the following table, which contains some very interesting information.

No.	Sex	Occupation of mother	Occupation of father	If nursed at home	By whom nursed if not at home	Habits of nurse	Any other children nursed by same person	Method of feeding	Condition of house where nursed	Condition of yard	Close accommodation	Remarks.
1	Male	weaver	tinner	no	grand-mother	apparently good (very deaf)	no	tube-shaped bot. & spoon	clean & well furnished	flagged	water closet	parents were married wih-n child five weeks old
2	Male	winder	soldier	no	grand-mother	very good	no	breast and boat-shaped bottle	clean	paved	tippler	father of indifferent character
3	Male	winder	market porter	yes	grand-mother	apparently good	no	boat-shaped bottle	clean	flagged	pedestal	ditto
4	Female	laundress	black-smith	yes	...	moderate	no	hand fed	clean	partly flagged	short h. w.c.	.....
5	Male	winder	sweep	yes	...	moderate	no	breast	fairly clean	flagged	pail	parents lived together about four years
6	Female	char-woman	hawker	yes	...	very mod.	no	breast	"	"	short h. w.c.	parents of indifferent character and live in a house let in lodgings
7	Male	char-woman	hawker	yes	...	moderate	no	breast	"	"	"	house condemned as unfit for human habitation
8	Female	weaver	labourer	no	neighbour	fairly good, but rather deficient mentally	no	boat-shaped bottle	"	flagged & cobbled	pail	the child very delicate from birth
9	Female	weaver	weaver	no	grand-mother	good	no	...	very clean	flagged	pedestal	further intemperate

TABLE III.—Continued.

No.	Sex	Occupation of mother	Occupation of father	If nursed at home	By whom nursed if not at home	Habits of nurse	Any other children nursed by same person	Method of feeding	Condition of house where nursed	Condition of yard	Closest accommodation	Remarks
10	Male	winder	railway porter	yes	grand-mother	good	no	boat-shaped bottle and spoon	clean	flagged & cobbled	pail	.....
11	Female	weaver	carter	no	aunt	very good	no	tube-shaped bottle	very clean	"	"	mother very indifferent in character and habits
12	"	house duties	weaver	yes	...	fairly good	no	breast	fairly clean	cobbled	pail	parents live together, but are not married
13	Male	weaver	fitter	yes	aunt	good	no	tube-shaped bottle	"	unflagged	"	very insanitary house
14	Female	winder	gas-meter inspector	no	neighbour	bad	no	"	dirty	flagged	pedestal	child defective from birth, and very badly nursed
15	Female	cardroom hand	brick maker	yes	...	very intemperate	no	spoon fed	very poor and dirty	flagged	pedestal	parents both intemperate and have had an illegitimate child before
16	"	ring spinner	labourer	no	neighbour	very clean	no	boat-shaped bottle	very clean	flagged & cobbled	pail	father intemperate & dissolute, mother very respectable
17	"	pickle packer	labourer	yes	...	very careless & indifferent	no	tube-shaped bottle	very poor fairly clean	flagged	slop w.c.	parents live in lodgings, and are intemperate
18	"	winder	labourer	yes	...	very careless & intemperate	no	"	fairly clean	flagged & cobbled	pedestal	mother very indifferent in her habits; this is her second illegitimate child
19	"	tailoress	joiner	yes	...	good	no	breast and boat-shaped bottle	clean	flagged & gardened	pail	.....

No.	Sex	Occupation of mother	Occupation of father	If nursed at home	By whom nursed if not at home	Habits of nurse	Any other children nursed by same person	Method of feeding	Condition of house where nursed	Condition of yard	Closest accommodation	Remarks
20	Male	cardroom hand	brick-setter	yes	...	very loose & intemperate	no	breast	very poor	flagged	pail	mother very intemperate and of unsatisfactory habits
21	Female	char-woman	labourer	yes	...	very loose & intemperate	no	boat-shaped bottle	very poor	"	pail	parents very intemperate, and of unsatisfactory habits
22	Male	winder	labourer	yes	...	good	no	breast & tube-shaped bottle	clean	"	privy	.....
23	Male	weaver	none	yes	...	very good	no	"	very clean	"	pedestal	mother in lodgings
24	Male	cardroom hand	driver	yes	...	"	yes two other children	tube & boat-shaped bott.	very clean	flagged & cobbled	slop w.c.	ditto
25	Male	weaver	iron broker	no	neighbour	fairly good	yes, one child	tube-shaped bottle	fairly clean	flagged	"	father very intemperate, but mother very respectable
26	Male	weaver	unknown	...	...	.....	...	breast	.....	...	...	this child was born at the Work-house
27	Male	cardroom hand	labourer	yes	grand-mother	very poor through old age	no	boat-shaped bottle	fairly clean	flagged & cobbled	pail	this child is nursed by grand-mother, who is very old and not fit to nurse
28	Male	winder	barber	yes	...	fairly good	no	"	clean	flagged	short hopper	this child was weak from birth
29	Male	weaver	clerk	yes	...	very good	no	breast and spoon	clean	flagged & cobbled	"	.....
30	Female	weaver	moulder	yes	...	fairly good	no	breast	fairly clean	flagged	pail	.....

TABLE III.—Continued.

No.	Sex	Occupation of mother	Occupation of father	If nursed at home	By whom nursed if not at home	Habits of nurse	Any other children nursed by same person	Method of feeding	Condition of house where nursed	Condition of yard	Closest accommodation	Remarks
31	Male	weaver	weaver	yes	..	very good	no	tube-shaped bottle	fairly clean	flagged & cobbled	short h. w.c.	mother very respectable, but father very intemperate
32	Female	weaver	comical traveller	yes	..	very good	no	"	clean	flagged	pedestal	.....
33	Female	weaver	carter	yes	..	very good	no	breast	very clean	"	"	.....
34	Female	mechanic	wholesale fruiterer	yes	..	"	no	tube-shaped bottle	"	flagged & cobbled	"	.....
35	Male	weaver	weaver	yes	..	moderate	no	breast	clean	flagged	pail	.....
36	Male	winder	weaver	yes	..	very good	no	breast	"	"	short hopper	.....
37	Male	tailoress	unknown	..	..	.....	..	breast	.....	..	..	this child was born at the Workhouse
38	"	winder	"	..	..	.....	..	breast	.....	..	..	ditto ditto
39	Male	cardroom hand	carter	yes	..	very good	no	boat-shaped bott. & spoon	clean	flagged	pedestal	.....
40	Male	laundress	musician	..	..	moderate	no	.....	clean	"	"	.....
41	Female	weaver	labourer	yes	..	fairly good	no	breast & tube shaped bott.	very clean	flagged & cobbled	"	mother very respectable, but father very intemperate
42	Male	winder	labourer	yes	..	"	no	boat-shaped bottle	"	"	privy	ditto ditto

No.	Sex	Occupation of mother	Occupation of father	If nursed at home	By whom nursed if not at home	Habits of nurse	Any other children nursed by same person	Method of feeding	Condition of house where nursed	Condition of yard	Close accommodation	Remarks
43	Male	winder	weaver	yes	...	fairly good	no	hand fed	clean	flagged	short hopper	child weak from its birth
44	Male	weaver	labourer	yes	...	good	no	breast & fed with spoon	clean	unflagged	pail	mother very respectable, but father of very indifferent habits
45	Male	cardroom hand	spinner	yes	...	fairly good	no	tube-shaped bottle	clean	flagged	pail	the parents live together as man and wife, and fairly steady
46	Male	char-woman	blacksmith	yes	...	"	no	tube & boat-shaped bott.	fairly clean	"	short hopper	} these were twins; mother appears very respectable, but father very intemperate
47	"	"	"	"	..	"	...	"	"	"	"	
48	"	weaver	labourer	yes	...	"	no	boat-shaped bottle	very clean	"	pail	this child was born at the Workhouse
49	"	weaver	unknown	...	...	.....	...	breast	.....	...	...	parents of very unsatisfactory habits, and very intemperate
50	Female	weaver	book-maker	yes	...	very intemperate and careless	no	tube-shaped bottle	clean	flagged	pail	the mother has unsatisfactory habits and the father too lazy to work; both are very intemperate
51	"	char-woman	none	yes	...	very intemperate	no	breast	fairly clean	"	pedestal	the parents are of very unsatisfactory habits and live in a house let in lodgings, and both are addicted to drink
52	Male	weaver	labourer	no	grand-mother	fairly good	no	boat-shaped bott. & spoon	dirty & very poorly furnished	flagged & cobbled	pail	

TABLE III.—Continued.

No.	Sex	Occupation of mother	Occupation of father	If nursed at home	By whom nursed if not at home	Habits of nurse	Any other children nursed by same person	Method of feeding	Condition of house where nursed	Condition of yard	Closest accommodation	Remarks
53	Female	none	rag gatherer	yes	...	very bad	no	.....	fairly clean	cobbled	trough closet	the parents of very unsatisfactory habits; the father has been in prison on many occasions; both very intemperate
54	Female	weaver	brick-layer	no	aunt	very fair	no	tube-shaped bottle only	clean	flagged	tippler	.....
55	Male	ring spinner	labourer	no	neighbour	moderate	yes, one child	breast & tube-shaped bottle	fairly clean	cobbled	pail	parents live together, but are not married; both intemperate
56	Male	tailoress	tailor	no	sent away	.....	...	.....	.....	...	...	child very weak from birth, and has been sent away to be nursed
57	Male	ring spinner	prof'nal footballer	yes	...	very good	no	tube-shaped bottle	very clean	flagged & cobbled	pedestal	.....
58	Female	weaver	weaver	yes	...	very good	no	boat-shaped bott. & spoon	very clean	flagged & cobbled	tippler	.....
59	"	servant	u'known	no	aunt	very fair	no	tube-shaped bottle	dirty	"	pedestal	parents of very unsatisfactory habits
60	Male	weaver	clogger	yes	...	intemperate	no	"	fairly clean	flagged	"	parents both intemperate and of very unsatisfactory habits
61	Female	weaver	clerk	yes	...	very good	no	hand fed	clean	"	short hopper	child very weak from birth; father very intemperate
62	Male	dress-maker	traveller	yes	...	"	no	boat-shaped bottle	very clean	"	pedestal	parents living together as man and wife; seem respectable

No.	Sex	Occupation of mother	Occupation of father	If nursed at home	By whom not at home	Habits of nurse	Any other children nursed by same person	Method of feeding	Condition of house where nursed	Condition of yard	Close accommodation	Remarks
63	Female	ring spinner	labourer	no	grand-mother	very intemperate	no	boat-shaped bottle	fairly clean	flagged & cobbled	pail	mother died shortly after the birth of this child; father very intemperate
64	Male	char-woman	traveller	yes	...	very good	two children	breast and spoon	clean	none	pail	twins; mother in very poor circumstances, and father has left the country
65	"	"	"	"	"	"	"	"	"	"	"	
66	Female	paperbag maker	unknown	yes	...	"	no	breast and tube-shaped bottle	very clean	flagged	short hopper	
67	Male	winder	carter	yes	"	fairly good	no	hand fed	fairly clean	"	pail	.....
68	Male	ring spinner	labourer	yes	...	intemperate	no	tube-shaped bottle	"	"	short hopper	parents very intemperate and of very unsatisfactory habits
69	Female	char-woman	butcher	yes	...	very good	no	breast	clean	"	"	mother very respectable, but father very intemperate
70	Male	weaver	weaver	no	neighbour	"	no	boat-shaped bott. and fed with spoon	very clean	flagged & cobbled	pail	.....
71	Male	cardroom hand	labourer	no	"	"	no	breast & boat-shaped bott.	"	"	pedestal	mother very respectable, but father very intemperate
72	Male	winder	publican	no	aunt	"	no	tube-shaped bottle	"	flagged	short hopper	.....
73	Female	weaver	labourer	yes	...	intemperate	no	breast and spoon	dirty	flagged & cobbled	pail	parents of very unsatisfactory habits and very intemperate

TABLE III.—Continued.

No.	Sex	Occupation of mother	Occupation of father	If nursed at home	By whom nursed if not at home	Habits of nurse	Any other children nursed by same person	Method of feeding	Condition of house where nursed	Condition of yard	Closest accommodation	Remarks
74	Female	weaver	flagger & slater	no	neighbor	intemperate	no	tube-shaped bott.& spoon	fairly clean	cobbled	pedestal	parents unsatisfactory in habits
75	Female	servant	unknown	no	"	very good	no	tube-shaped bottle	very clean	flagged	short h.	mother very indifferent and has deserted the child
76	"	char-woman	fitter	yes	..	fairly good	no	boat-shaped bottle	fairly clean	"	"	} these children were twins and mother is careless
77	"	..	..	"	..	"	"	spoon fed	"	"	"	
78	"	weaver	over-looker	"	..	"	"	boat-shaped bottle	very clean	"	pedestal	.....
79	Male	winder	weaver	"	..	very good	no	boat-shaped bott.&spoon	fairly clean	"	pail	.....
80	"	weaver	tailor	no	neighbor	fairly good	no	boat-shaped bottle	clean	flagged & cobbled	"	.....
81	Female	confectioner	joiner	yes	..	"	no	tube-shaped bottle	fairly clean	flagged	pail	the parents have since been married
82	"	char-woman	carter	"	..	very mod.	no	"	"	"	pedestal	} these children were twins and the parents are very careless and very intemperate
83	"	"	"	yes	..	"	"	"	"	"	"	
84	Male	weaver	cabinet maker	yes	..	fairly good	no	boat-shaped bottle	very clean	flagged & cobbled	pail	.....
85	Female	house duties	cloth-looker	yes	..	"	no	breast	fairly clean	"	"	mother very respectable, but father has absconded

No.	Sex	Occupation of mother	Occupation of father	If nursed	By whom	not at home	Habits of nurse	Any other children nursed by same person	Method of feeding	Condition of house where nursed	Condition of yard	Closest accommodation	Remarks
86	Female	char woman	boiler maker	no	neighbour		fairly good	yes, two children	breast and spoon	fairly clean	flagged & cobbled	pail	mother appears careless
87	"	weaver	labourer	yes	...	...	"	yes, five children	breast	"	flagged	pail	the parents live together as man and wife
88	"	winder	labourer	yes	...	...	"	no	tube-shaped bottle	"	"	pedestal	mother very respectable, but father very intemperate
89	Male	weaver	tape-sizer	yes	...	...	fairly good	no	boat-shaped bottle	very clean	flagged & cobbled	pail	.....
90	Female	winder	drawer-in	yes	...	...	"	no	tube-shaped bottle	"	"	pedestal	.....
91	Male	"	labourer	yes	...	...	"	no	breast and spoon	"	"	pail	mother very respectable, but father very intemperate
92	Female	weaver	spinner	yes	...	...	"	no	boat-shaped bottle	"	flagged	hopper	.....
93	"	winder	weaver	yes	...	...	"	no	breast	very clean	"	"	.....
94	Male	cardroom hand	spinner	yes	...	...	intemperate	no	tube-shaped bottle	fairly clean	"	"	parents of very unsatisfactory habits and addicted to drink
95	"	weaver	collier	yes	...	...	fairly good	no	"	"	"	"	mother very respectable, but father intemperate
96	Female	house duties	carter	yes	...	...	"	no	boat-shaped bottle	"	flagged & cobbled	pedestal	the parents have since been married
97	"	milliner	traveller	yes	...	...	"	no	tube-shaped bottle	very clean	"	pail	.....

TABLE III.—Continued.

No.	Sex	Occupation of mother	Occupation of father	If nursed at home	By whom nursed if not at home	Habits of nurse	Any other children nursed by same person	Method of feeding	Condition of house where nursed	Condition of yard	Closet accommodation	Remarks
98	Male	weaver	clerk	yes	...	fairly good	no	boat-shaped bottle	very clean	flagged	pedestal	...
99	"	"	painter	no	neighbour	"	no	tube-shaped bottle	fairly clean	flagged & cobbled	pail	mother very respectable, but father intemperate
100	Female	"	football player	no	aunt	"	"	"	"	flagged & gardened	"	.....
101	"	"	labourer	no	neighbour	"	no	boat-shaped bottle	clean	flagged	short hopper	.....
102	Male	warper	clothier	no	"	"	no	tube-shaped bottle	"	flagged & cobbled	pail	.....
103	Female	char-woman	plate-layer	yes	...	"	yes, two children	breast	"	partly flagged	pail	.....
104	"	cardroom hand	labourer	yes	...	moderate	no	breast and spoon	fairly clean	flagged & cobbled	pedestal	.....
105	"	char-woman	spinner	yes	...	"	yes, one child	boat-shaped bottle	moderately clean	flagged	short hopper	mother fairly respectable, but father very intemperate

Of the 134 Illegitimate Births which occurred during 1906, 13 occurred at the Workhouse, and four of these have been entered on the foregoing particulars, and 20 have removed out of the district, particulars of which could not be obtained.

TABLE IV.—ILLEGITIMATE CHILDREN

Ward.	No. of Births.	Total number of deaths at all ages	Deaths under 1 year of age.
St. Stephen's	6	3	3
Trinity	7	8	5
St. Michael's	2	1	0
St. John's	15	3	2
St. Silas'	1	1	1
St. Paul's	12	5	3
St. Peter's	11	9	6
St. Mary's	10	9	6
St. Matthew's	13	5	3
St. Thomas' *	25	6	6
Park	9	2	1
St. Luke's	10	10	7
St. Mark's	8	6	3
St. Andrew's	5	2	0
Borough	134	70	46

* The Workhouse is situate in this Ward.

The percentage of deaths of illegitimate children under one year of age to the total number of illegitimate births registered during the year was 34·3.

The birth-rates in 1906 for England and Wales were as follows :—

England and Wales	27.0	per 1,000 living.
76 Great Towns	27.9	„
142 Smaller Towns	26.5	„
England and Wales (less the 218 towns)	26.3	„

STILL-BORN CHILDREN.

The total number of still-born children brought to the Cemetery for interment during 1906 was 194, compared with 183 during 1905.

The following shows the number for each month :—

Jan.	Feb.	March	April	May	June
21	19	13	15	25	15
July	Aug.	Sept.	Oct.	Nov.	Dec.
16	20	6	11	13	20

DEATHS.

In the following Tables (VI. to XIV.) will be found classifications of the Deaths in Blackburn during 1906, according to age, disease, locality, period, and also comparisons with other towns.

During 1906 there were 2,193 Deaths, of which 1,079 were males and 1,114 females.

Adjustment has been made for those persons who belonged to outside districts and who died in Blackburn, and for Blackburn residents who died in outside districts.

The number of Deaths of non-residents who died in institutions in this Borough was 107. These came from the following districts. viz. : Darwen, 35 ; Oswaldtwistle, 17 ; Church, 11 ;

Great Harwood, 8 ; Accrington, 5 ; Clayton-le-Moors, 4 ; Haslingden, 4 ; Rishton, 2 ; Clitheroe, 2 ; Whalley, 2 ; Burnley, 2 ; Blackpool, 2 ; and Billington, Clayton-le-Dale, Copster Green, Mellor, Mytton, Wakefield, Ribchester, Scarborough, Livesey, Tockholes, Yate and Pickup Bank, Barnoldswick, and Samlesbury, 1 each.

The number of Deaths amongst Blackburn residents occurring in Districts outside was 37. These occurred at the Royal Infirmary, Liverpool ; Royal Infirmary, Manchester ; Cancer Hospital, Manchester ; private residence, Blackpool ; Workhouse, Warrington ; Lancaster, Whittingham, Winwick, and Prestwich Asylums.

Notifications of Deaths in Blackburn occurring amongst residents of other districts are sent each quarter to the Medical Officers of Health of those districts. This is preferable to the method of sending the complete annual return in the early part of the following year, as the accuracy of statistics is more likely to be ensured in this way.

The resulting death-rate is equal to 16.4 per 1,000, which is the same as the death-rate for 1905. The rate is very satisfactory, and is 2.2 per 1,000 less than the average death-rate for the previous ten years. Indeed, there has only been one lower annual death-rate in the sanitary history of Blackburn, namely, the year 1903, when the death-rate reached the very low figure of 15.7 per 1,000.

During the last 60 years the death-rate of Blackburn has diminished practically 50 per cent.

The following were the death-rates for England and Wales during 1906 :—

England and Wales	15.4	per 1,000 living.
76 Great Towns	16.0	„
142 Smaller Towns	14.4	„
England and Wales (less the 218 towns)	15.0	„

The increase in the number of Deaths for 1906, as compared with 1905, was in the following diseases:—Measles, Whooping Cough, Influenza, Abdominal Tuberculosis, Diarrhœa, Debility, Premature Birth, Old Age, Convulsions, Inflammation of the Brain or Membranes, Apoplexy, Diseases of Heart and Blood Vessels, Cirrhosis of the Liver.

The increase was especially marked in Measles, Diarrhœa, Apoplexy, and in Diseases of the Heart and Blood Vessels.

There was a decrease in the number of Deaths from Scarlet Fever, Diphtheria, Enteric Fever, General Tuberculosis, Phthisis, Tubercular Meningitis, Rheumatism, Cancer, Nervous Diseases, Bronchitis, Pneumonia, Bright's Disease, and Causes Unspecified.

The decrease was especially marked in Scarlet Fever, Phthisis, Bronchitis, and Bright's Disease.

The largest numbers of deaths at all ages during 1906 were from Diseases of the Heart and Blood Vessels, Pneumonia, Bronchitis, Diarrhœa, and Old Age, which claimed 186, 180, 178, 171, and 143 victims respectively.

On referring to Table XI. it will be seen that during 1906 the *lowest* death-rates occurred in St Silas's, St Andrew's, and St. Thomas's Wards, with rates of 9.1, 11.4, and 12.9 per 1,000 respectively.

The *highest* ward death-rates occurred in St. Mary's, St. Peter's, and Trinity Wards, namely: 24.3, 23.3, and 19.9 per 1,000 respectively.

Again, as in previous years, Table XI. also shows the striking difference in the death-rates from Phthisis in the various wards.

The wards with a Phthisis death-rate under one were St. Stephen's, St. John's, St. Silas's, St. Thomas's, St. Mark's, and St. Andrew's.

Those with a Phthisis death-rate above one were: Trinity, St. Michael's, St. Paul's, St. Peter's, St. Mary's, St. Matthew's, Park, and St. Luke's Wards.

The lowest Phthisis death-rate occurred in St. Silas's Ward (0.2), and the highest in Park and St. Luke's Wards (1.3).

Table VI. shows that the lowest death-rates occurred between the ages of five and 45 years, and that the death-rates amongst males and females were greatest at the extremes of life.

From Table VII. it will be seen that the highest monthly death-rate occurred during September, which was due chiefly to Diarrhœa. During the months of June, July, and August the death-rate was very low.

Also the greatest number of Deaths from Diarrhœa occurred during September and October.

The weekly death-rates, as shown in Table X., were highest in the weeks ending March 3rd and March 31st, when they were 22.1 and 22.7 per 1,000 respectively.

The lowest weekly death-rates occurred in the weeks ending July 28th and December 8th, namely, 10.1 per 1,000.

TABLE V.

Year.	Popu- lation in Census Years.	Popula- tion esti- mated to middle of year.	Birth Rate.	Death Rate.	Average Death rate in 10 year periods.	Year.	Popula- tion in Census Years.	Popula- tion esti- mated to middle of year.	Birth Rate.	Death Rate.	Average death rate in 10 year periods.
1841	36,629	36,849		29'9	29'02	1871	76,339	76,695	41'1	26'5	26'5
1842	...	37,742		25'0		1872	...	78,136	44'3	26'2	
1843	...	38,656		31'5		1873	...	79,604	40'5	30'9	
1844	...	39,593		28'8		1874	...	81,099	40'7	29'9	
1845	...	40,552		27'7		1875	...	82,624	41'2	26'6	
1846	...	41,534		35'7		1876	...	84,716	40'4	28'7	
1847	...	42,541		33'9		*1877	...	90,089	39'0	23'6	
1848	...	43,571		27'8		1878	...	96,031	35'9	28'5	
1849	...	44,627		25'2		†1879	...	98,869	35'5	21'9	
1850	...	45,708		28'7		1880	...	102,736	32'9	22'2	
1851	46,536	46,892	43'3	27'0	29'47	1881	104,014	104,388	37'5	22'4	23'83
1852	...	48,344	41'3	35'1		1882	...	105,897	36'9	24'3	
1853	...	49,841	42'7	35'2		1883	...	107,427	40'0	23'9	
1854	...	51,384	43'6	25'6		1884	...	108,980	37'9	23'6	
1855	...	52,974	41'7	33'6		1885	...	110,555	36'1	21'3	
1856	...	54,614	42'5	24'3		1886	...	112,153	35'6	24'7	
1857	...	56,306	42'1	32'2		1887	...	113,774	36'5	25'3	
1858	...	58,049	39'2	31'8		1888	...	115,418	35'6	24'0	
1859	...	59,846	41'4	25'8		1889	...	117,086	35'5	25'4	
1860	...	61,699	43'3	24'1		1890	...	118,780	33'8	23'4	
1861	63,126	63,434	43'7	27'9	27'83	1891	120,064	120,245	33'9	25'9	21'32
1862	...	64,681	42'5	28'1		1892	...	120,972	32'0	21'0	
1863	...	65,953	38'9	21'8		1893	...	121,704	31'4	22'9	
1864	...	67,249	40'5	25'9		1894	...	122,440	29'5	17'7	
1865	...	68,572	39'9	27'4		1895	...	123,181	31'6	25'0	
1866	...	69,920	39'6	30'7		1896	...	123,926	28'6	18'3	
1867	...	71,294	40'8	27'5		1897	...	124,675	29'1	20'2	
1868	...	72,696	43'3	26'9		1898	...	125,430	29'1	19'4	
1869	...	74,125	40'5	31'5		1899	...	126,185	28'8	20'6	
1870	...	75,583	40'7	30'6		1900	...	126,951	27'0	22'2	
						1901	127,626	127,823	26'5	19'5	
						1902	...	130,239	25'7	17'2	
						1903	...	131,079	25'2	15'7	
						1904	...	131,908	23'5	17'2	
						1905	...	132,742	24'0	16'4	
						1906	...	133,583	25'5	16'4	

* Part of Witton, Livesey, and Little Harwood—population 8,662.
Half of this has been added to 1877 population.

† Part of Little Harwood and Lower Darwen—population 2,394.
Half of this has been added to year 1879 population.

‡ Part of Witton and Livesey added in November, 1901.

TABLE VI.

1906.

AGE PERIODS.	MALES.		FEMALES.	
	Deaths.	Death Rate	Deaths.	Death Rate.
0-5	412	64.4	360	56.9
5-15	45	3.5	50	3.6
15-25	46	3.6	55	3.5
25-35	42	4.2	58	4.6
35-45	77	9.0	77	7.4
45-55	110	18.3	109	15.8
55-65	125	36.1	152	37.4
65-75	154	102.8	162	76.4
75 and upwards.	68	172.5	91	148.9

TABLE VII.

Monthly Births and Deaths for 1906.

Month.	Birth Rate.	Death Rate	Measles.	Scarlet Fever	Whooping Cough.	Croup.	Typhoid Fever.	Diphtheria	Diarrhœa.	Lung Diseases.	Tuber- culosis.	All Other Diseases.
January	26·6	17·6	15	9	...	1	1	2	5	35	13	120
February ...	26·0	19·4	10	4	1	...	...	7	2	42	17	116
March	23·6	17·4	12	3	...	...	1	1	...	42	27	113
April	24·1	17·3	9	1	1	...	1	...	1	33	15	130
May	25·2	15·0	5	4	3	...	2	1	...	32	13	111
June	27·9	12·2	4	4	...	...	...	...	2	21	12	92
July	25·9	12·4	3	2	2	...	1	2	4	23	17	87
August	27·7	13·6	4	1	1	...	...	2	8	18	15	107
September	22·0	19·6	...	1	2	...	...	3	81	16	15	98
October.....	25·9	18·5	1	3	2	1	4	...	45	28	16	110
November...	25·8	15·5	...	1	2	1	3	3	11	35	11	104
December...	24·3	14·8	...	...	3	2	1	5	3	28	11	116

TABLE VIII.—(SHORTER SCHEDULE B)

CAUSE OF DEATH.	0—1		1—5		5—15		15—25		25—65		65 & up		M.	F.	To- TAL.
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
Smallpox .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Measles	9	7	20	24	2	1	...	...	...	...	...	...	31	32	63
Scarlet Fever .....	...	...	12	8	7	5	1	...	...	...	...	...	20	13	33
Typhus Fever .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Influenza.. ..	...	1	1	...	...	2	1	...	5	7	3	2	10	12	22
Whooping Cough	3	6	2	5	1	...	...	...	...	...	...	...	6	11	17
Diphtheria & Membranous Croup .....	...	2	4	9	4	7	...	...	...	...	...	...	8	18	26
Croup	2	...	3	...	...	...	...	...	...	...	...	...	5	...	5
Enteric Fever .....	...	...	...	...	1	2	4	...	5	2	...	...	10	4	14
Other continued Fevers.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhœa	28	20	4	6	...	...	2	...	3	...	1	...	34	30	64
Plague .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic or Zymotic Enteritis.....	37	51	3	8	...	1	...	...	5	1	1	...	46	61	107
Enteritis.....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Erysipelas	1	1	...	...	...	1	...	...	3	1	2	...	6	3	9
Puerperal Fever .....	...	...	...	...	...	...	2	...	3	...	...	...	...	5	5
Other Septic Diseases .....	...	...	1	...	...	...	2	...	1	1	...	...	2	3	5
Intermittent and Malarial Cachexia .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Tuberculosis of Meninges...	1	4	4	6	2	7	...	...	...	...	...	...	7	17	24
Phthisis	1	...	7	...	1	4	6	21	46	36	1	1	62	62	124
Other Tuberculous Diseases	10	4	8	8	4	3	3	5	5	4	...	...	30	24	54
Malignant Disease (Cancer)	...	...	...	...	...	...	...	...	20	57	16	15	36	72	108
Premature Birth	40	32	...	...	...	...	...	...	...	...	...	...	40	32	72
Developmental Diseases ...	9	8	1	...	...	...	...	...	1	...	...	...	11	8	19
Old Age.....	...	...	...	...	...	...	...	4	8	55	76	...	59	84	143
Meningitis	6	...	1	3	2	...	1	2	1	2	...	...	11	7	18
Inflammation and Softening of Brain .....	...	...	...	...	...	...	...	4	1	6	...	...	10	1	11
Organic Diseases of Heart.	...	1	...	...	4	5	4	4	48	58	31	31	87	99	186
Venereal Diseases	3	1	...	...	...	...	...	...	...	...	...	...	3	1	4
Bronchitis	22	11	8	6	...	1	...	...	30	29	26	45	86	92	178
Pneumonia	17	19	19	17	4	3	10	2	36	26	14	13	100	80	180
Pleurisy .....	...	...	...	...	1	...	...	...	2	1	...	...	3	1	4
Other Respiratory Diseases.....	...	...	...	...	...	...	...	2	1	1	...	...	3	1	4
Diseases of Stomach .....	...	...	...	...	...	...	...	2	4	2	1	...	5	4	9
Obstruction of Intestines ...	2	...	1	...	...	...	...	...	4	7	2	5	9	12	21
Cirrhosis of Liver (Alcoholism).....	...	...	...	...	...	...	...	...	18	5	4	1	22	6	28
Nephritis & Brights Disease	...	2	...	...	2	1	...	1	12	21	6	4	20	29	49
Tumour and other Affections of female genital organs	...	...	...	...	...	...	...	...	...	7	...	2	...	9	9
Accidents and Diseases of Parturition.....	...	...	...	...	...	...	...	3	...	10	...	...	...	13	13
Deaths by Suicide .....	...	...	...	...	...	...	1	...	6	9	2	...	9	9	18
Homicide	1	...	1	...	...	...	...	...	...	...	...	...	2	...	2
Deaths from Ill-defined Causes	20	12	4	1	1	1	1	1	11	16	8	9	45	40	85
Deaths by Accidents or Negligence	4	1	4	2	1	2	3	1	12	6	4	9	28	21	49
All other Causes	74	60	14	14	8	4	9	9	72	70	36	41	210	201	411
TOTAL	290	243	122	117	45	50	46	55	356	394	220	255	1079	1114	2193

TABLE IX.

DISEASE.	1900.	1901.	1902	1903.	1904.	1905.	1906.	Death Rate,
	Total De'ths	Total De'ths	Total De'ths	Total De'ths	Total De'ths	Total De'ths	Total De'ths	
Smallpox	2	...	2	3	...	...	...	0'00
Measles	76	94	77	53	60	42	63	0'47
Scarlet Fever	83	58	31	13	13	76	33	0'24
Whooping Cough	53	22	23	14	96	11	17	0'12
Diphtheria	91	62	23	26	11	33	26	0'19
Croup	13	8	5	2	..	...	5	0'03
Enteric Fever	30	17	23	15	21	15	14	0'10
Influenza	82	20	27	27	17	20	22	0'16
General Tuberculosis	6	22	18	8	10	17	14	0'10
Phthisis	148	150	163	122	125	142	124	0'92
Abdominal Tuberculosis...	47	35	24	28	40	27	34	0'25
Tubercular Meningitis and Acute Hydrocephalus...	14	23	51	47	28	33	24	0'17
Other forms of Tuberculosis	30	12	6	8	8	7	6	0'04
Diarrhœa	169	133	70	100	125	93	171	1'28
Enteritis	15	44	8	2	3	...	...	0'00
Atrophy, Debility, Marasmus.....	75	52	74	52	67	56	61	0'45
Rheumatism, R'matic Fev'r	24	17	13	16	19	17	13	0'09
Cancer	98	91	91	92	107	113	108	0'80
Premature Birth	95	68	70	83	80	67	72	0'53
Old age.....	96	99	108	127	153	139	143	1'07
Convulsions	65	51	28	36	32	34	40	0'29
Inflammation of the Brain or Membranes	51	46	10	8	5	13	18	0'13
Apoplexy.....	87	67	93	76	80	83	102	0'76
Other Nervous Diseases	61	65	71	63	74	73	69	0'51
Diseases of Heart and Blood Vessels.....	168	160	167	190	194	155	185	1'39
Bronchitis	328	250	233	211	240	214	178	1'33
Pneumonia	280	232	221	229	249	190	180	1'34
Cirrhosis of Liver	17	26	24	14	13	14	22	0'16
Acute Nephritis, Bright's Disease.....	53	57	52	48	60	64	49	0'36
Burns and Scalds.....	16	12	13	7	10	12	11	0'08
*Causes unspecified	125	109	123	76	50	113	85	0'63
All Diseases .....	...	...	...	...	...	...	...	16'41

* Including all cases not certified by a medical man, and all cases where an inquest was held but no definite cause of death shown.

TABLE X.

Weekly Births and Deaths for 1906.

1905.	Deaths from all causes.	Death Rate per 1,000 per annum.	Deaths from Seven Principal Zymotics.	Death Rate per 1,000 for Zymotics.	Births.	Birth Rate per 1,000 per annum.
Week ending Jan. 6	45	17.5	10	3.8	57	22.1
" " 13	49	19.0	3	1.1	83	32.3
" " 20	38	14.7	9	3.5	64	24.9
" " 27	51	19.8	1	0.3	65	25.3
" Feb. 3	41	15.9	9	3.5	55	21.4
" " 10	39	15.1	6	2.3	72	28.0
" " 17	52	20.2	5	1.9	65	25.3
" " 24	55	21.4	5	1.9	71	27.6
" March 3	57	22.1	6	2.3	44	17.1
" " 10	47	18.2	3	1.1	47	24.9
" " 17	40	15.5	1	0.3	70	27.2
" " 24	31	12.0	1	0.3	63	24.5
" " 31	58	22.7	9	3.5	55	21.4
" April 7	50	19.4	5	1.9	55	21.4
" " 14	48	18.8	2	0.7	64	24.9
" " 21	31	12.0	4	1.5	65	25.3
" " 28	48	18.6	2	0.7	67	26.0
" May 5	52	20.2	3	1.1	70	27.2
" " 12	38	14.7	6	2.3	65	25.3
" " 19	27	10.5	2	0.7	53	20.5
" " 26	44	17.1	4	1.5	61	23.7
" June 2	33	12.8	1	0.3	70	27.2
" " 9	37	14.4	2	0.7	53	20.6
" " 16	32	12.4	2	0.7	79	30.7
" " 23	27	10.5	1	0.3	87	33.8
" " 30	31	12.0	2	0.7	68	26.4
" July 7	28	10.9	2	0.7	83	32.3
" " 14	34	13.2	2	0.7	74	28.8
" " 21	39	15.1	3	1.1	73	28.4
" " 28	26	10.1	2	0.7	52	20.2
" August 4	33	12.8	2	0.7	75	29.1
" " 11	35	13.6	3	1.1	82	31.9
" " 18	36	14.0	2	0.7	46	17.9
" " 25	35	13.6	...	...	81	31.5
" Sept. 1	34	13.2	1	0.3	65	25.3
" " 8	44	17.1	...	...	48	18.6
" " 15	52	20.2	2	0.7	68	26.4
" " 22	48	18.6	1	0.3	58	22.5
" " 29	55	21.4	4	1.5	62	24.1
" Oct. 6	46	17.9	2	0.7	53	20.6
" " 13	53	20.6	...	...	66	25.6
" " 20	53	20.6	3	1.1	54	21.0
" " 27	44	17.1	5	1.9	69	26.8
" Nov. 3	41	15.9	...	...	69	26.8
" " 10	29	11.2	1	0.3	72	28.0
" " 17	36	14.0	2	0.7	64	24.9
" " 24	53	20.6	2	0.7	72	28.0
" Dec. 1	44	17.1	4	1.5	65	25.3
" " 8	26	10.1	2	0.7	53	20.6
" " 15	36	14.0	...	...	64	24.9
" " 22	38	14.7	...	...	81	31.5
" " 29	44	17.1	4	1.5	39	15.1

TABLE XI.

WARDS.	Popula- tion.	Deaths	Births.	Death Rate.	Birth Rate.	Deaths under one year per 1000 Births.	Death- rate from six Zymotic Diseases.	Death- rate from Bron- chitis and Pneu- monia.	Death- rate from Phthi- sis.
ST. STEPHEN'S...	9587	159	267	16.5	27.8	157.3	1.0	2.6	0.6
TRINITY	10359	207	295	19.9	28.4	169.4	1.2	3.6	1.1
ST. MICHAEL'S..	9293	132	248	14.2	26.6	133.0	1.0	1.5	1.1
ST. JOHN'S	8045	116	192	14.4	23.8	140.6	1.1	2.4	0.9
ST. SILAS'	9971	91	185	9.1	18.5	97.2	0.3	1.0	0.2
ST. PAUL'S	10174	173	266	17.0	26.1	127.8	2.0	2.6	1.1
ST. PETER'S.....	7712	180	195	23.3	25.2	230.7	0.7	5.1	1.4
ST. MARY'S	6854	167	163	24.3	23.7	257.6	1.6	3.7	1.1
ST. MATTHEW'S.	10107	178	307	17.6	30.3	133.5	1.2	3.1	1.1
ST. THOMAS' ...	13331	172	287	12.9	21.5	135.8	0.9	2.4	0.4
PARK	9338	174	263	18.6	28.1	148.2	1.4	2.8	1.3
ST. LUKE'S	8814	164	236	18.6	26.7	224.5	1.2	2.4	1.3
ST. MARK'S	9334	157	262	16.8	28.0	187.0	0.7	1.9	0.6
ST. ANDREW'S..	10718	123	252	11.4	23.5	83.3	1.2	1.7	0.4
BOROUGH	133583	2193	3418	16.4	25.5	155.9	1.1	2.6	0.9

TABLE XII.

TOWNS.	Birth Rate.	Death Rate.	Deaths under 1 year per 1000 births	Death rate over one year.	Death rate from seven Zymotic diseases	Death rate from Diarrhoea.	Death rate from Violence.	Inquest Cases percentage to total Deaths.	Uncertified cause of Death percentage to total Deaths.
London ...	26·6	15·7	132	12·1	1·95	·95	·64	9·8	·2
West Ham	30·5	15·3	149	10·1	3·06	1·91	·57	8·4	·02
Croydon ...	25·7	13·4	125	9·6	1·77	1·35	·34	10·1	·00
Brighton...	22·3	14·4	111	12·2	1·08	·55	·36	9·1	·05
Portsmouth	28·6	14·8	130	11·1	1·84	1·10	·40	7·6	1·2
Plymouth...	23·9	16·2	152	12·5	1·96	·72	·35	6·8	·00
Bristol.....	25·8	14·3	128	11·1	1·56	·58	·48	9·2	·3
Cardiff.....	27·2	14·2	135	10·2	1·55	·82	·65	9·1	·1
Swansea ...	31·9	17·9	156	13·0	1·90	·82	·86	8·3	·1
W'h'mpton	27·4	14·7	140	10·9	2·28	1·28	·49	7·7	·6
B'mingham	29·2	16·7	168	11·8	2·77	1·56	·58	4·7	2·9
N. wich ...	26·0	16·7	176	13·1	2·99	1·40	·33	6·3	·7
Leicester...	25·3	14·4	166	9·7	2·37	1·11	·43	7·4	1·0
Nottingham	26·5	16·0	171	11·4	2·09	1·48	·56	6·5	·5
Derby	25·0	14·0	114	11·3	1·39	·63	·53	9·2	·00
Birkenhead	31·8	17·3	151	12·4	2·97	1·75	·56	6·9	·2
Liverpool..	32·6	20·3	171	14·9	3·63	1·87	·74	6·0	3·3
Bolton.....	25·5	15·5	138	11·5	1·72	1·15	·44	6·5	·4
Manchester	29·0	19·2	166	14·2	3·09	1·52	·72	7·4	·8
Salford ...	30·2	18·2	160	13·4	3·21	1·44	·54	7·5	·3
Oldham ...	26·9	18·7	145	14·7	2·76	1·19	·54	6·0	·1
Burnley ...	27·6	19·7	213	13·6	3·82	2·48	·66	5·8	1·1
Blackburn	25·6	16·4	155	12·4	2·42	1·28	·51	5·8	2·5
Preston ...	28·5	19·2	200	13·4	3·57	1·61	·43	3·2	3·1
Hudd'sfield	24·2	17·3	135	14·0	2·21	·72	·55	5·3	1·0
Halifax ...	19·2	15·5	118	12·7	1·34	·28	·35	5·5	1·1
Bradford...	20·6	16·1	152	12·9	2·03	·92	·51	8·4	·8
Leeds	26·1	15·8	152	11·6	2·22	·97	·57	8·6	·2
Sheffield ...	29·9	16·7	158	11·6	2·91	1·75	·54	5·7	2·0
Hull.....	29·6	17·0	161	12·1	2·91	1·55	·74	8·7	·7
Sunderland	34·8	18·5	140	13·6	1·96	1·12	·59	5·8	3·3
Gat shead..	31·9	16·3	162	11·1	2·77	1·62	·37	3·3	5·8
Newcastle..	30·6	17·2	151	12·4	2·21	1·03	·60	7·6	·4

TABLE XIII.

Death-rates from Zymotic Diseases in the 33 large towns.

	Small Pox.	Measles	Scarlet Fever.	Diph- theria.	W'ping Cough.	Enteric Fever.	Diarrhoea
London ...	0'00	0'40	0'11	0'14	0'26	0'05	0'95
West Ham	0 00	0'40	0'12	0'29	0'23	0'17	1'91
Croydon ...	0'00	0'25	0'05	0'26	0'18	0'03	1'35
Brighton ...	0'50	0'22	0'02	0'10	0'17	0'02	0'55
Portsmouth	0'00	0'04	0'01	0'29	0'31	0'08	1'10
Plymouth ...	0'01	0'44	0'08	0'18	0'46	0'05	0'72
Bristol	0'00	0'38	0'07	0'22	0'28	0'05	0'58
Cardiff	0'00	0'01	0'01	0'07	0'35	0'07	0'82
Swansea ...	0'00	0'27	0'00	0'07	0'50	0'09	0'82
Wolverh'ton	0'00	0'27	0'16	0'22	0'19	0'07	1'28
Birmingham	0'00	0'41	0'10	0'16	0'46	0'07	1'56
Norwich	0'00	0'83	0'09	0'22	0'16	0'09	1'40
Leicester ..	0'00	0'34	0'22	0'11	0'48	0'06	1'11
Nottingham	0'00	0'01	0'06	0'15	0'15	0'16	1'48
Derby	0'00	0'01	0'03	0'51	0'23	0'08	0'63
Birkenhead	0'00	0'07	0'26	0'23	0'0	0'14	1'75
Liverpool ...	0'00	0'77	0'25	0'20	0'48	0'10	1'87
Bolton	0'00	0'01	0'09	0'13	0'11	0'22	1'15
Manchester	0'00	0'74	0'17	0'20	0'30	0'13	1'52
Salford ...	0'00	0'79	0'19	0'38	0'23	0'17	1'44
Oldham	0'00	0'88	0'23	0'12	0'29	0'04	1'19
Burnley	0'00	1'13	0'11	0'11	0'26	0'10	2'48
Blackburn	0'00	0'47	0'24	0'19	0'12	0'10	1'28
Preston	0'00	1'04	0'13	0'14	0'09	0'18	1'61
Huddersfield	0'00	0'63	0'06	0'13	0'33	0'09	0'72
Halifax	0'00	0'49	0'05	0'38	0'05	0'03	0'28
Bradford ...	0'00	0'44	0'15	0'21	0'13	0'18	0'92
Leeds... ..	0'00	0'60	0'07	0'16	0'32	0'11	0'97
Sheffield ...	0'00	0'17	0'51	0'18	0'24	0'11	1'75
Hull	0'03	0'25	0'03	0'51	0'28	0'19	1'55
Sunderland	0'00	0'10	0'02	0'23	0'36	0'13	1'12
Gateshead...	0'00	0'40	0'06	0'28	0'33	0'08	1'62
Newcastle ..	0'00	0'63	0'05	0'24	0'22	0'04	1'03

TABLE XIV.

Showing Population, Birth-rates, and Death-rates, for the last 20 years in Blackburn.

Year.	Estimated Population	Birth Rate.	Death Rate.	Zymotic Death rate including Diarrhoea.	Death rate from Bronchitis. Pneumonia & Pleurisy.	Death rate from Phthisis.	Death rate from other Tubercular Diseases	Deaths under 1 year per 1000 Births.
1887	113,774	36·5	25·3	4·0	5·8	1·5	...	204
1888	115,418	35·6	24·0	3·9	5·8	1·5	...	190
1889	117,086	35·5	25·4	5·1	6·8	1·5	0·7	221
1890	118,780	33·8	23·4	2·8	7·0	1·8	0·7	194
1891	120,245	33·9	25·9	4·3	7·6	1·3	0·7	207
1892	120,972	32·0	21·0	2·8	5·1	1·0	0·9	199
1893	121,704	31·4	22·9	4·8	5·3	1·1	1·1	241
1894	122,440	29·5	17·7	2·9	3·9	1·2	0·7	168
1895	123,181	31·6	25·0	6·1	4·7	1·2	1·1	235
1896	123,926	28·6	18·3	1·9	3·8	1·1	0·5	172
1897	124,675	29·1	20·2	3·2	4·0	1·1	0·7	207
1898	125,430	29·1	19·4	2·6	3·6	1·2	0·5	204
1899	126,185	28·8	20·6	2·7	4·4	1·2	0·5	193
1900	126,951	27·0	22·2	3·9	4·8	1·1	0·7	221
1901	127,719	26·5	19·5	3·0	3·7	1·1	0·7	193
1902	130,239	25·7	17·2	1·9	3·5	1·2	0·7	157
1903	131,079	25·2	15·7	1·7	3·3	0·9	0·6	158
1904	131,908	23·5	17·2	2·4	3·7	0·9	0·6	191
1905	132,742	24·0	16·4	2·0	3·0	1·0	0·6	146
1906	133,583	25·5	16·4	2·4	2·7	0·9	0·5	155

TABLE XV.

INQUEST CASES.

Natural Causes	34
Accidents	42
Suicide.....	19
Excessive Drinking	5
Convulsions	3
Manslaughter	2
Drowning	3
Scalds: 13 months, 2 years, and 3 years	3
Burns	9
Suffocated	5
Poisoning	1
Abortion	1
Still born.....	1

Ages of persons burnt:—Two years, $2\frac{1}{2}$ years, 3 years, 4 years, 7 years, 36 years, 56 years, 59 years, and 70 years.

Ages of persons suffocated:—17 days, 20 days, 5 weeks, 6 weeks, and 5 months.

There were 128 Inquests during the year as compared with 140 last year.

INFANTILE MORTALITY.

During 1906 the death-rate amongst children under one year of age per 1,000 births was 155.9, compared with 146.2 in 1905, and 191.9 in 1904.

The Infantile death-rates for England and Wales during 1906 were as follows:—

England and Wales	133	per 1,000 living.
76 Great Towns	146	„
142 Smaller Towns	138	„
England and Wales (less the 218 towns)	115	„

The increase in the Infantile death-rate for 1906 over that for 1905 was due to the greater number of deaths amongst infants from Diarrhœa, which was very fatal during the months of September and October.

During 1906, 533 Deaths occurred under the age of one year out of the total number of deaths, 2,193, namely, nearly one-quarter, or 24.3 per cent.

The greatest number of Deaths under one year during 1906 occurred from Diarrhœa. The next most frequent causes of Death during the first year of life were from Premature Birth and Developmental Causes, Debility, Atrophy, Marasmus and Inanition, Lung Diseases, Convulsions, Zymotic Diseases, Tuberculosis, Dentition.

On referring to Table XI. it will be seen that only two wards, namely, St. Andrew's and St. Silas's, had Infantile death-rates during 1906 of less than 100 per 1,000 births. The birth-rate in St. Silas's was very low during 1906.

Any Infantile Mortality over 100 deaths per 1,000 births should be considered to be due to causes which are preventible, and it is a standard to which the most vigorous attempts should be made to reach.

In St. Mary's, St. Peter's, and St. Luke's Wards the Infantile Mortality was over 200 for every 1,000 children born.

In Table XXI. I have arranged, as in previous years, the Deaths under one year according to days, weeks, and months, and the following conclusions may be drawn from this analysis:—

- I. The number of deaths on the *first day* of life was far greater than on any succeeding day, and was greater by 31 than the combined total of Deaths on the second, third, fourth, fifth, sixth, and seventh days of life.
- II. The number of Deaths during the *first week* of life was greater by 35 than the combined total of Deaths during the second, third, and fourth weeks of life.
- III. The number of deaths during the *first month* of life was more than three times greater than the number in any succeeding month during the first year of life, and was also equal to about one-third of the total number of Deaths in the first year.

2,705 homes where a Birth occurred during the year have been visited by the District Inspectors and particulars obtained as to the method of feeding the infants.

It was found that 60 per cent. were fed on the breast alone, which is a marked improvement on the previous year.

The visits to these homes were paid at an earlier date after Birth than previously. When the Lady Sanitary Inspectors are at work it will be possible for these homes to be visited still earlier, and also to be kept under continued observation.

During the year under review special prominence has been given to the subject of Infantile Mortality in Blackburn. At a Public Meeting held in the Town Hall on November 21st, and attended by many representative citizens, addresses were given by Alderman Broadbent, Ex-Mayor of Huddersfield, and others. The meeting was presided over by Alderman Garsden, Chairman of the Blackburn Health Committee. As it is absolutely necessary to detect the cause of a disease before successful remedies can be applied, and as my notes prepared for the above-mentioned meeting form a preliminary investigation to further work in this important subject, I have incorporated the notes in my Annual Report.

Although statistics and information respecting a single year, such as I have given for 1906, are of some value, they are much more useful and interesting when they deal with a long period of years.

I have therefore analysed the causes of Death below the age of one year in Blackburn for a complete period of 15 years, i.e., from 1891 to 1905. It may be said that those ill-defined causes, Premature Birth, Developmental, Debility, Atrophy, and Inanition, may be taken roughly as a measure of the condition of the mother before confinement.

The number of Deaths from these causes has not increased in Blackburn, but how we compare with other large manufacturing towns in this respect I cannot say.

On adding together the numbers of Deaths for 15 years—1891 to 1905—from the causes referred to above, it has been found that the greatest number occurred from Premature Birth, Debility, etc., 2,292; the next in order were Lung Diseases, 1,892; Diarrhoea, 1,648; Convulsions, 826; Zymotic Diseases, 727; Tuberculosis, 675; and Dentition, 253.

TABLE XVI.—Deaths under One Year from 1891—1905.

Disease.	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905
Zymotic Diseases.....	75	62	59	29	107	30	75	17	51	57	36	29	24	54	22
Diarrhea	90	78	190	58	211	79	112	153	79	143	149	54	78	98	76
Lung Diseases	107	153	172	103	124	107	138	114	107	140	100	99	116	139	83
Convulsions	100	98	85	68	63	58	51	51	54	49	40	23	30	30	26
Tuberculosis	50	60	81	45	59	36	46	31	26	45	41	46	38	43	28
Debility, Atrophy, Marasmus, Inanition....	38	48	23	73	45	48	53	63	39	24	47	69	46	59	54
Premature Birth, Developmental.....	150	154	111	87	115	82	80	93	105	110	103	90	100	97	86
Dentition.....	41	20	7	11	26	14	19	12	21	17	18	20	7	10	10
All Others	107	103	194	135	170	157	178	216	223	177	122	100	84	65	82
All Causes	848	776	922	609	920	611	752	750	706	762	656	530	523	595	467

If the life of the mother is not well regulated, or if it is injured by such agencies as alcohol, drugs, want of food, or excessive exertion, the child suffers before birth.

Such may be called the ante-natal causes of Infantile Mortality.

Then after birth other factors tend to increase this death-rate, especially amongst infants who are already weakened to begin with. Amongst these factors are Diarrhœa, and another group closely associated with Digestive Diseases, namely, Convulsions. Foul feeding-bottles, together with improper food, given at irregular times in very large quantities, are accountable for many of these Deaths.

Again, many Deaths from Lung Diseases—Bronchitis and Pneumonia—amongst infants are associated with unsuitable clothing, undue exposure to large variations of temperature, etc.

Therefore, I think we may say that want of maternal care, the result of ignorance, is an important cause of wastage of Infant life. This ignorance appears to be most marked in the feeding and care of the baby.

In Blackburn, inquiries are made each year at houses where Births have occurred as to the method of feeding the baby. This has been done systematically since 1897. In that year 1,955 cases were inquired into, and it was found that 1,237 children were being fed on the breast alone, or 63 per cent. In the year 1905, 1,678 cases were inquired into, and only 320, or 38 per cent., were fed on the breast alone. For several years it has appeared that the number of children fed naturally has diminished. What a contrast to the above is the statement that 99 per cent. of the infants in Japan are breast-fed! This is very unfortunate, particularly when one remembers that the mortality amongst hand-fed babies is many times greater than amongst breast-fed babies.

Inquiries have also been made in Blackburn since 1897 as to the manner in which babies born in each year have been fed artificially. In the year 1897, out of 1,955 cases inquired into, 280 babies were fed by means of that "abomination" known as the long tube bottle, and only 18 babies were fed by means of an improved form of boat-shaped bottle. Each year since then there has been an improvement in this respect, probably due to certain educational measures. And during the year 1905, out of the 1,678 cases inquired into, the number of babies fed by the long tube bottle had dropped to 123, whilst the number of babies fed by a boat-shaped bottle had increased to 96.

There is no doubt that the Infantile death-rate, or the number of Deaths amongst children below the age of one year per 1,000 births registered, has improved in Blackburn during recent years. For the last 15 years the figures are very complete. For example, during the five years 1891 to 1895, the Infantile death-rate was 210; for the five years 1896 to 1900, it was 199; and for the last five years, i.e., from 1901 to 1905, the Infantile death-rate was 169. This diminution would have been more marked had it not been for a fatal epidemic of Whooping Cough during the year 1904, and it might have been much more marked if breast feeding had increased instead of diminishing. The average Infantile death-rate for the 15 years, 1891 to 1905, was 192.

Although the deplorable state of affairs which prevailed formerly does not exist to the same extent now, there is an urgent need for improvement, for the diminution which has taken place in the general death-rate has not occurred correspondingly in the Infantile death-rate. Also there has been a less improvement during the first three months than during the remaining nine months of the first year of life.

The occurrence of epidemics and variation in climatic conditions not only affect the general death-rate, but also the Infantile death-rate. For example, epidemics of Whooping Cough, or a hot summer with its attendant increase of flies and Diarrhoea, add to the number of Deaths below the age of one year. It is

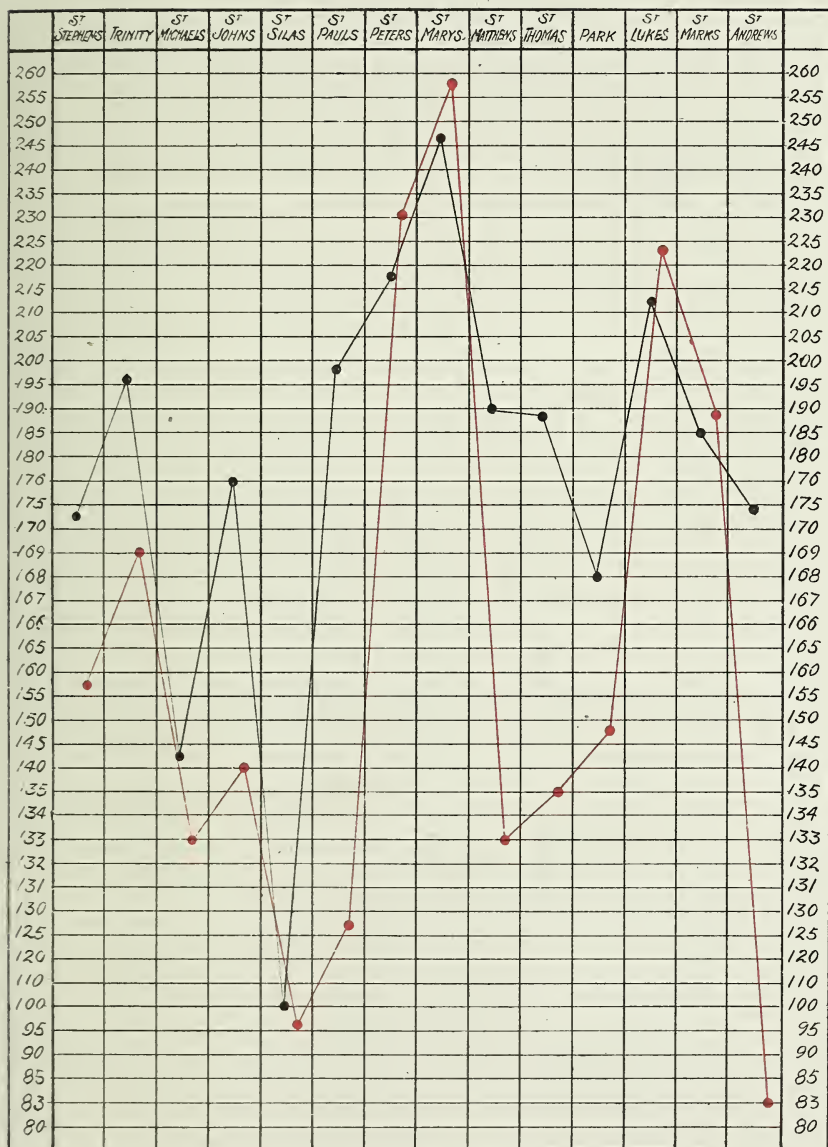
therefore more important to inquire why the Infantile death-rate is always high in certain districts than it is to inquire why the Infantile death-rate rises one year but falls another year.

The inquiry of practical importance is therefore "Which are the portions of Blackburn where a high rate of Infant Mortality is maintained?"

I have, therefore, calculated the average Infantile Mortality of each of the 14 wards in the Borough since the year 1898, when these wards were formed, and I have also ascertained the density of population per acre in each ward for the purpose of comparison. The average Infantile Mortality for the eight years 1898 to 1905 is shown graphically on the accompanying chart, and it will be seen at a glance that the rate is much higher in certain wards than in others.

CHART 1.

Infantile Death Rates per 1,000 Births from 1898—1906.



Black indicates Average Rate from 1898 to 1905

Red - - - Rate for 1906

TABLE XVII.

POPULATIONS, ACREAGE, DENSITY AND AVERAGE
INFANTILE MORTALITY IN WARDS.

Name of Ward.	Population.	Acreage.	Density, <i>i.e.</i> , No. of Persons per Acre.	Average Infantile Mortality from 1898 to 1905.
St. Stephen's...	9587	1158·849	8·2	172 0
Trinity	10359	144·697	71·5	196 1
St. Michael's...	9293	630·361	11·5	143·2
St. John's	8045	102·319	78·6	176·3
St. Silas'	9971	993·871	10·8	100 8
St. Paul's	10174	123 476	82·3	198·5
St. Peter's.....	7712	134·198	57 4	218·3
St. Mary's.....	6854	171·282	40 0	246·3
St. Matthew's...	10107	112 344	89 9	190·1
St. Thomas' ...	13331	1721·649	7·7	187·8
Park	9338	654·017	14·2	168·1
St. Luke's	8814	154·275	57·1	213·3
St. Mark's.....	9334	404·842	23 0	185·3
St. Andrew's...	10718	925·427	11·5	174 0
Borough	133583	7431·607	17·9	191 0

A high rate may be seen particularly in Trinity, St. Paul's, St. Peter's, St. Mary's, and St. Luke's Wards. The lowest rate of Infantile Mortality is in St. Silas's Ward.

The wards where the density is greatest are, in order, St. Matthew's, St. Paul's, St. John's, Trinity, so that although the Infantile Mortality and the density do not correspond exactly, there is some connection between them, especially in St. Paul's and Trinity Wards. Speaking generally, those wards on the outskirts of the Borough have a comparatively low Infantile Mortality. Although in Blackburn there is not a great deal of slum property—such as may be found in Manchester and Liverpool—it may be said that those wards in which the Infantile Mortality is greatest have a worse class of property than the others.

For several years I have analysed the Deaths under one year according to the day, the week, and the month, and have been able to draw certain conclusions regarding Blackburn, which correspond with the conclusions which I have given previously for the year 1906.

- I. The number of Deaths on the *first day* of life is far greater than on any succeeding day, and is greater than the combined total Deaths on the second, third, fourth, fifth, sixth, and seventh days of life.
- II. The number of Deaths during the *first week* of life is greater than the combined total of the second, third, and fourth weeks.
- III. The number of Deaths during the *first month* is two or three times as great as the number in any succeeding month during the first year of life, and also is equal to about one-half or one-third of the remaining Deaths in the first year.

In this connection, the point which I wish to emphasise is that these children have died before official notification of their

Birth has been required by the local Registrars, as in England a Birth need not be registered until the infant is six weeks old. Obviously, therefore, it is impossible to take any steps for the prevention of these Deaths until a Health Authority has received information as to the Births. It would seem as if greater attention had been paid to investigation after Death than before. The Corporation of Huddersfield has obtained clauses which confer upon the Municipality the power to require notification of Birth within two days. If this measure could be adopted generally it would prove of immense value in enabling Health Authorities to institute certain preventive measures. For example, if the Medical Officer of Health could receive notification of each Birth within 48 hours, a Lady Inspector or Inspectors could visit the mother and give suitable advice on this and on subsequent visits. If carried out with tact, this need not involve any interference between doctor and patient, or mother and child. Especially would this measure be of value in the poorer homes where no medical man was in attendance. It might thus be possible to reduce those Deaths already alluded to, which occur during the first month of life, and of which, under present circumstances, we have no knowledge until it is too late. Apart from the prevention of Death, there would also be the prevention of disease and chronic illness which result in so many maimed and wrecked lives, for there is no doubt that the infant who has suffered from prolonged Diarrhoea, etc., has much lost ground to recover.

The employment of women often involves artificial feeding of the child whilst the mother is away from home, but it is not easy to make any practical suggestion regarding the abolition of female labour. If the mother could feed her child naturally for the first three months, a precarious portion of infant life would be tided over, and the chance of subsequent survival would be improved very considerably. In Blackburn one frequently hears of a mother who feeds her child naturally before she goes to work in the morning, at the mid-day meal, and when she returns at night. Such a mother has already realised that a little natural feeding is better than the bottle alone. It would be interesting to know the results of this method of feeding compared with the other methods.

I think there are other factors than the employment of married women which assist in producing a high Infantile death-rate, as female employment is not the only cause of premature weaning. I need only mention the disinclination of some young mothers to be tied at home, and the want of knowledge on the part of other young mothers that a baby fed naturally has greater powers of resistance than a baby fed artificially. Of course, in some instances, the health of the mother will not allow her to feed the child naturally, and then artificial feeding is necessary.

The measures which are adopted in Blackburn at present towards the prevention of Infantile Mortality consist in visitation of homes after receipt of notifications of Births, distribution of handbills by Inspectors and local Registrars. These instructions in future might well be in card form, so that they may be fixed on a kitchen wall. A course of Lectures is given to teachers in School Hygiene at the Technical School, lessons are given to older girls in the feeding and care of infants at some elementary schools, similar instruction is given in evening continuation schools, vigorous sanitary measures, such as improvement in the type of sanitary convenience, the flagging of back-yards, and general improvements in housing conditions are carried out continually. I would advise an unabated continuance and extension of all these measures, and have given prominence to some of them in the following notes.

I would lay very great stress upon the necessity for teaching the older girls in schools elementary hygiene in reference to the rearing of infants. It has been said by some that this is out of place, but a consideration of the fact that many girls in the upper classes of public elementary schools of large manufacturing towns already have to feed, wash, and dress a baby, should outweigh this objection. A knowledge of these points, especially if combined with a preliminary training in cooking plain dishes, mending clothes, managing a house, and domestic thrift, will surely make these girls better wives and mothers in the future. The only persons who can impart this knowledge successfully to the girls are the teachers, who themselves should be trained in this branch by medical experts so that the method by which the knowledge

is imparted should be accurate and uniform. Very short lessons could be given which need not interfere unduly with the ordinary syllabus, and such lessons should be accompanied by practical demonstrations, using, if necessary, a large doll, the size of a small baby, in the lessons of washing and dressing.

So much for the instruction of future mothers.

Now for the present mothers, who also need educational measures applied differently, and here it will be seen how very important it is that there should be early notification of all Births referred to above, so that Lady Inspectors or Visitors might visit the homes as soon after birth as possible. Health Visitors should be selected with the utmost care, and they themselves should be instructed thoroughly in the technique of infant feeding. Valuable educational influences also might be exerted upon young women at evening continuation schools between the time of leaving school and marriage.

An important factor, either for good or for evil, in assisting in a diminution of the Infantile mortality exists in the advice and example of the midwife. She is often the only person present at the birth of the child, and can do much to arrange matters in such a way that the new-born has a good start in life. She can give most useful advice regarding the bathing, dressing, feeding, and care generally of the young child. What is of still greater importance, she can encourage the mother, whenever possible, to feed the baby naturally. Midwives also have many opportunities of giving advice to mothers before the child is born, as they are frequently called in two or three weeks before. Health Visitors might very well take up the work of the midwife after the latter has completed attendance, which is about the end of a fortnight.

It is probable that the type of midwife will improve, and I look to this as a means of valuable help in the future.

There are many other side issues of this important subject which might be discussed with advantage, such as Infant Foods, Notifications of Still Births, Insurance of Infant Lives, Amend-

ment of the Infant Life Protection Act, Provision of a Pure Milk Supply, etc., but the points which I wish to emphasise here are the need for increased educational measures at home to the present mother, especially in maternal feeding, and to the future mother by school teachers.

The action of the Health Committee in deciding to appoint two Lady Sanitary Inspectors, who will be selected and begin work as early as possible, is to be commended. A band of voluntary lady workers, carefully selected, could also effect much good in co-operation with the Health Department.

Apart from the official measures taken by the Health Department, a number of ladies and gentlemen in the town are about to initiate an experiment in order to encourage the breast-feeding amongst poor mothers. The experiment will be carried out on a small scale at first, and the cost will be met by private subscriptions. A number of poor women who are within one month of confinement, or who have just been confined, will be supplied daily with a suitable cooked dinner free of charge from a restaurant which will shortly be opened. Two conditions will be imposed upon the mothers, one that she shall feed her baby at the breast, and the other that she shall allow the baby to be weighed every week.

A paid woman will be in charge of the restaurant, and will be assisted by a voluntary lady helper, who can give advice to the mother respecting herself and her infant. It is intended to give one meal a day for three months, and reduce the number of meals after this. It is also proposed to give small sums of money as prizes to mothers whose infants are in a satisfactory condition at the end of the first year of life.

The experiment will be watched with great interest by all who hope for a reduction in the Infantile Mortality of Blackburn.

TABLE XVIII.—Analysis of Deaths under One Year of Age for the last Eight Years.

	1899.		1900.		1901.		1902.		1903.		1904.		1905.		1906.	
	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births	Deaths.	Rate per 1000 Births
Zymotic Diseases...	51	14.0	57	16.5	36	10.6	29	8.6	24	7.2	54	17.4	22	6.8	27	7.8
Diarrhoea	79	21.7	143	41.5	149	44.0	54	16.0	78	23.6	98	31.6	76	23.8	136	39.7
Lung Diseases	107	29.3	140	40.7	100	29.8	99	29.4	116	35.1	139	44.8	83	25.9	69	20.1
Convulsions	54	14.8	49	14.5	40	11.5	23	6.8	30	9.0	30	9.6	26	8.1	35	10.2
Tuberculosis.....	26	7.1	45	13.0	41	12.1	46	13.7	38	11.5	43	13.8	28	8.7	20	5.8
Debility, Atrophy, Marasmus, Inanition	39	10.7	24	6.9	47	13.8	69	20.5	46	13.9	59	19.0	54	16.9	71	20.7
Premature Birth, Developmental..	105	28.8	110	31.9	103	30.4	90	26.8	100	30.2	97	31.2	86	26.9	89	26.0
Dentition	21	5.7	17	4.9	18	5.3	20	5.9	7	2.1	10	3.2	10	3.1	17	4.9
All Others.....	223	6.1	177	51.4	122	36.0	100	29.7	84	25.4	65	20.9	82	25.6	69	20.1
All Causes	706	193.7	762	221.6	656	193.7	530	157.8	523	158.2	595	191.9	467	146.2	533	155.9

TABLE XIX.

Particulars of the Nursing and Feeding of 2,705 Children, under seven months old, visited by the Inspectors.

District.	Total number visited.	Number nursed by mother.	Number nursed by other persons.	Number nursed at home.	Number nursed away.	How Fed.								Only lived a day or two.	Out, but instructions left.	Removals.	
						Breast only.	Breast & bottle with long tube.	Breast & bottle boat shape.	Breast, and fed with spoon.	'T'ube shaped bottle only.	Boat shaped bottle only.	Boat shaped bottle, and fed with spoon.	'T'ube shaped bottle, and fed with spoon.				Other means
1	660	486	27	491	22	326	8	15	29	64	60	5	4	2	15	109	23
2	721	490	84	519	55	274	29	34	62	86	81	—	3	5	46	73	28
3	751	543	64	553	54	383	25	15	34	81	34	16	13	6	10	102	32
4	573	428	58	452	34	344	5	11	22	49	50	2	1	2	24	51	12
Total...	2705	1947	233	2015	165	1377	67	75	147	280	225	23	21	15	95	335	95

Summarising the important points:—

About 89 per cent. of the Children were nursed by the mothers.

60 " " fed on the breast alone.

13 " " partly on the breast and partly by hand.

25 " " wholly fed by hand.

TABLE XX.

28 Large Towns.	Deaths Under One Year to 1,000 Births Registered.														
	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906	Average
London	164	143	165	160	167	167	167	160	149	141	131	144	131	132	150
Brighton	169	138	164	135	142	181	173	166	160	125	110	134	100	111	143
Portsmouth	164	131	174	154	168	156	197	155	162	151	113	141	133	130	152
Norwich	195	164	190	164	196	192	179	178	186	156	149	179	174	176	177
Plymouth	169	168	178	177	183	170	190	175	149	154	144	173	136	152	165
Bristol	141	149	143	142	148	164	158	133	130	130	116	133	122	128	138
Wolverhampton	208	165	217	184	217	200	184	206	162	133	141	152	136	140	174
Birmingham	198	163	182	197	215	191	191	199	186	156	158	195	155	168	182
Leicester	220	162	202	187	205	191	195	175	175	152	161	163	147	166	178
Nottingham	170	173	189	168	206	178	210	196	193	158	164	175	155	171	179
Derby	156	123	160	150	167	169	162	174	154	124	128	143	151	114	148
Birkenhead	196	142	173	176	162	186	183	160	181	148	155	180	127	151	165
Liverpool	211	179	210	172	200	184	198	186	187	162	159	196	154	171	183
Bolton	199	161	211	168	186	168	181	171	171	134	152	167	166	138	169
Manchester	203	159	203	176	194	197	206	189	198	152	168	187	157	166	182
Salford	210	173	230	199	220	212	209	207	204	155	166	193	150	160	192
Oldham	187	160	189	183	183	175	198	172	172	148	160	155	150	145	169
Blackburn	241	168	235	172	207	205	189	221	193	157	159	191	146	155	188
H Preston	269	203	248	176	263	225	255	236	216	188	161	183	152	200	212
Huddersfield	141	169	157	166	130	153	152	132	131	137	120	136	119	135	141
Halifax	173	134	157	148	140	163	159	132	127	143	122	130	130	118	141
Bradford	197	144	202	141	178	185	181	141	168	138	147	166	144	152	163
Leeds	206	155	193	168	191	182	171	183	188	159	153	176	152	152	173
Sheffield	191	156	196	172	197	195	194	200	200	149	182	158	167	158	179
Hull	206	141	205	173	178	182	175	183	174	137	162	181	153	161	172
Sunderland	188	166	188	157	164	202	175	169	181	152	156	165	143	140	167
Newcastle-on-Tyne ..	174	156	186	165	177	190	193	170	178	139	165	156	135	151	167
Cardiff	179	141	178	165	150	158	184	141	147	146	122	144	118	135	150
Average	190	156	190	168	183	172	186	175	171	147	147	164	143	148	148

TABLE XXI.—Deaths under One Year, arranged according to Days, Weeks, and Months.

	1st day.	2nd day.	3rd day.	4th day.	5th day.	6th day.	7th day.	1st week.	2nd week.	3rd week.	4th week.	Under 1 month.	1 month to 2.	2 months to 3.	3 months to 4.	4 months to 5.	5 months to 6.	6 months to 7.	7 months to 8.	8 months to 9.	9 months to 10.	10 months to 11.	11 months to 12.	TOTAL.
Six Zymotic Diseases .....	...	...	...	...	...	...	...	...	...	...	1	1	2	...	1	2	1	2	5	1	3	3	6	27
Diarrhœa .....	...	...	...	...	...	...	1	1	2	7	7	17	18	11	20	13	11	9	10	8	4	7	8	136
Lung Diseases .....	...	...	...	...	1	...	...	1	...	1	4	6	5	8	9	1	3	7	4	11	5	6	4	69
Convulsions	3	4	3	1	...	1	2	14	4	3	...	21	4	3	1	1	1	1	...	2	...	...	1	35
Tuberculosis .....	...	...	...	...	...	...	...	...	...	1	...	1	...	3	5	3	1	5	1	...	1	...	...	20
Debility, Marasmus, Atrophy, Inanition.....	5	1	2	1	...	...	...	9	4	10	3	26	9	12	6	2	2	2	3	5	3	...	1	71
Premature Birth	43	5	...	2	2	...	1	53	7	3	1	64	5	3	...	...	...	...	...	...	...	...	...	72
Dentition .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	3	2	...	1	3	3	4	17
All others	15	2	2	1	...	1	2	23	2	5	1	31	9	6	6	6	2	3	7	4	6	5	1	86
All Causes	66	12	7	5	3	2	6	101	19	30	17	167	52	46	48	29	24	31	30	32	25	24	25	533

TABLE XXII.

Showing Deaths, Death Rates, and Birth Rates in Wards for each Month.

JANUARY.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Wh'g C'gh	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes
St. Stephen's.....	25·7	22·0	...	1	...	...	1	...	...	3	2	11
Trinity	40·9	19·3	2	...	...	...	...	1	1	3	3	7
St. Michael's.....	20·3	7·6	...	...	...	...	...	1	...	...	1	4
St. John's	20·4	13·1	...	...	...	...	...	1	2	1	1	5
St. Silas'	22·4	8·2	1	...	...	...	...	...	...	...	...	6
St. Paul's	27·7	26·6	2	3	...	...	...	...	5	1	12	...
St. Peter's.....	19·8	30·5	3	3	...	...	...	1	7	...	9	...
St. Mary's.....	24·0	24·0	2	...	...	...	1	1	1	1	9	...
St. Matthew's	30·2	12·8	...	...	...	...	...	1	1	2	8	...
St. Thomas'	26·4	11·4	...	1	...	...	...	1	4	...	7	...
Park	28·9	27·7	3	2	...	...	...	4	2	11	...	...
St. Luke's.....	24·0	21·3	1	1	1	...	...	3	...	10	...	...
St. Mark's.....	34·0	13·8	...	1	...	...	...	1	...	9	...	...
St. Andrew's	24·1	14·2	...	...	...	...	...	1	...	12	...	...
Borough.....	26·6	17·6	14	9	...	1	1	2	5	35	13	120

FEBRUARY.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Wh'g C'gh	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes
St. Stephen's.....	32·5	17·6	1	...	...	...	1	2	2	...	7	...
Trinity	20·1	16·3	...	...	...	...	...	4	1	1	8	...
St. Michael's.....	23·8	11·2	...	...	...	...	1	...	...	6	...	...
St. John's	29·1	24·2	1	2	...	...	...	3	1	8	...	...
St. Silas'	20·9	15·6	...	...	...	...	...	2	...	10	...	...
St. Paul's	34·5	20·2	...	1	...	...	1	4	1	9	...	...
St. Peter's.....	35·4	28·7	2	...	...	...	...	3	1	11	...	...
St. Mary's.....	22·8	15·2	1	...	...	...	...	1	2	4	...	...
St. Matthew's	25·7	21·9	...	...	...	...	1	4	1	11	...	...
St. Thomas'	18·5	14·6	3	...	...	...	...	2	...	10	...	...
Park	26·4	25·1	...	...	1	...	...	4	4	9	...	...
St. Luke's.....	34·0	35·4	1	1	...	...	1	6	5	10	...	...
St. Mark's.....	26·5	18·1	1	...	...	...	1	3	1	7	...	...
St. Andrew's	19·4	12·1	...	...	...	...	1	3	...	6	...	...
Borough.....	26·0	19·4	10	4	1	...	...	7	2	42	17	116

TABLE XXII.—continued.

MARCH.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Wh'g C'gh	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes
St. Stephen's.....	27·0	25·8	2	...	...	...	...	...	...	2	..	17
Trinity	21·5	20·4	1	...	...	...	...	...	...	6	2	9
St. Michael's.....	20·2	10·1	...	...	...	...	...	...	...	...	2	6
St. John's	19·0	14·6	2	...	...	...	...	...	...	2	2	4
St. Silas'	16·5	7·0	...	...	...	...	...	...	...	2	1	3
St. Paul's	18·5	16·1	3	...	...	...	1	...	...	1	2	7
St. Peter's	27·4	22·8	...	...	...	...	...	...	...	3	3	9
St. Maryt's.....	20·6	20·6	...	...	...	...	...	...	...	3	3	6
St. Mat hew's	34·9	19·7	2	...	...	...	...	...	...	6	2	7
St. Thomas'	15·0	15·0	1	...	...	...	...	...	...	4	2	10
Park	25·2	28·9	1	...	...	...	...	...	...	4	4	14
St. Luke's.....	29·3	18·6	...	1	...	...	...	...	...	4	2	7
St. Mark's.....	23·9	10·0	...	1	...	...	...	...	...	2	1	4
St. Andrew's.....	32·9	16·4	...	...	...	...	1	...	...	3	1	10
Borough.....	23·6	17·4	12	2	...	...	1	1	...	42	27	113

APRIL.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Wh'g C'gh	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuber- culosis	All other Causes
St. Stephen's.....	21·5	13·9	1	...	...	...	...	...	...	2	..	8
Trinity	35·2	25·8	...	...	...	...	...	...	...	5	2	15
St. Michael's.....	28·7	22·2	...	...	...	...	...	...	...	2	2	13
St. John's	24·1	15·1	...	...	1	...	...	...	...	2	2	5
St. Silas'	14·6	12·2	...	1	...	...	...	...	...	...	...	9
St. Paul's	22·7	23·9	3	...	...	...	...	...	...	3	1	13
St. Peter's	25·2	11·0	1	...	...	...	...	...	...	4	...	2
St. Mary's.....	14·1	17·7	1	...	...	...	...	...	...	3	...	6
St. Matthew's	36·0	15·6	1	...	...	...	...	...	...	1	1	10
St. Thomas'	19·1	15·5	1	...	...	...	...	...	...	4	1	11
Park	26·0	11·7	...	...	...	...	...	...	...	2	...	7
St. Luke's.....	26·2	16·5	...	...	...	...	...	...	...	2	2	8
St. Mark's.....	23·4	26·0	...	...	...	...	...	...	...	2	2	16
St. Andrew's.....	19·2	14·7	1	...	...	...	1	...	1	1	2	7
Borough.....	24·1	17·3	9	1	1	...	1	...	1	33	15	130

TABLE XXII.—*continued.*

MAY.	Birth Rate.	Death Rate.	DEATHS.								
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	28.1	12.2	...	1	...	...	...	...	2	...	7
Trinity	26.1	19.3	...	1	...	...	...	...	3	1	12
St. Michael's.....	34.4	25.3	1	..	1	...	...	...	3	3	12
St. John's	20.4	4.3	...	...	...	...	...	...	..	...	3
St. Silas'	17.7	9.4	1	...	...	...	...	...	..	...	7
St. Paul's	26.6	13.8	1	...	...	...	...	...	3	1	7
St. Peter's	35.1	27.4	...	...	...	...	...	4	2	2	12
St. Mary's	34.3	27.4	...	...	...	2	...	3	1	1	10
St. Matthew's	24.4	11.0	1	...	...	...	...	2	2	2	5
St. Thomas'	21.1	11.4	...	...	1	...	...	2	...	...	10
Park	21.4	11.3	...	1	1	...	1	1	1	1	4
St. Luke's	22.6	12.0	1	1	...	...	...	2	...	...	5
St. Mark's.....	23.9	22.6	...	...	...	...	...	5	1	1	12
St. Andrew's.....	21.9	8.7	...	...	...	...	...	2	1	1	5
Borough.....	25.2	15.0	5	4	3	...	2	1	32	13	111

JUNE.	Birth Rate.	Death Rate.	DEATHS.								
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	39.3	17.7	...	1	...	...	...	...	1	2	10
Trinity	35.2	17.6	1	...	...	...	...	1	1	1	11
St. Michael's.....	31.4	7.8	...	...	...	...	...	2	...	...	4
St. Johns	22.6	7.5	...	...	...	...	...	..	...	...	5
St. Silas'	24.4	7.3	..	...	...	...	...	1	...	...	5
St. Paul's	27.5	17.9	2	...	...	...	...	1	3	2	7
St. Peter's	25.2	26.8	...	..	...	...	...	6	3	3	8
St. Mary's	26.6	14.2	...	2	...	...	...	1	1	1	4
St. Matthew's	27.6	12.0	...	...	...	...	...	2	1	1	7
St. Thomas'	27.3	9.1	...	...	...	...	...	1	1	1	8
Park	23.4	14.3	...	1	...	...	...	2	1	1	7
St. Luke's	27.6	8.2	...	...	...	...	...	1	...	...	5
St. Mark's.....	26.0	10.4	1	...	...	...	...	...	...	...	7
St. Andrew's.....	24.9	4.5	..	...	...	...	...	...	...	...	4
Borough.....	27.9	12.2	4	4	...	...	...	2	21	12	92

TABLE XXII.—*continued.*

JULY.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	31·9	8·6	...	...	...	...	...	...	...	2	...	5
Trinity	22·7	21·5	...	...	...	...	...	...	1	6	1	11
St. Michael's.....	15·1	5·0	...	1	...	...	...	...	...	...	1	2
St. Silas'	33·6	16·0	...	...	...	...	...	...	...	1	2	8
St. John's	16·5	7·0	...	...	...	...	...	...	...	...	1	5
St. Paul's	32·3	9·2	...	...	...	...	1	...	...	2	1	4
St. Peter's.....	22·8	10·6	...	...	...	...	...	...	...	2	1	4
St. Mary's	25·7	15·4	...	...	...	...	...	1	...	...	...	8
St. Matthew's	32·6	16·3	...	1	...	...	...	1	...	3	2	7
St. Thomas'	30·0	13·2	...	...	1	...	...	...	...	5	1	8
Park	26·4	12·6	...	...	...	...	...	...	...	...	3	7
St. Luke's.....	29·3	21·3	1	...	...	...	...	...	...	1	4	10
St. Mark's.....	32·7	11·3	...	...	...	...	...	...	2	1	...	6
St. Andrew's.....	29·6	6·5	2	...	1	...	...	1	...	...	...	2
Borough.....	25·9	12·4	3	2	2	...	1	2	4	23	17	87

AUGUST.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	20·8	12·2	1	...	...	...	...	...	1	...	3	5
Trinity	21·5	5·6	...	...	...	...	...	...	...	1	...	4
St. Michael's.....	40·5	18·9	...	...	...	...	...	...	1	2	...	12
St. John's	32·1	13·1	...	1	...	...	...	...	...	1	1	6
St. Silas'	17·7	14·1	...	...	...	...	...	...	2	...	...	10
St. Paul's	28·9	12·7	1	...	...	...	...	...	2	1	2	5
St. Peter's.....	13·7	13·7	...	...	...	...	...	...	1	2	...	6
St. Mary's	25·7	27·4	...	...	...	...	...	...	2	2	4	10
St. Matthew's	37·2	18·6	...	...	1	...	...	...	1	3	1	10
St. Thomas'	24·7	13·2	2	...	...	...	...	...	...	4	...	9
Park	39·0	12·6	...	...	...	...	...	...	...	...	2	8
St. Luke's.....	25·3	8·0	...	...	...	...	...	1	...	1	...	4
St. Mark's.....	32·7	13·8	...	...	...	...	...	...	1	1	1	9
St. Andrew's.....	27·4	10·9	...	...	...	...	...	...	...	...	1	9
Borough.....	27·7	13·6	4	1	1	...	...	1	8	18	15	107

TABLE XXII.—*continued.*

SEPTEMBER.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	24·0	17·7	...	...	...	...	...	...	8	...	...	6
Trinity.....	22·3	23·4	...	...	...	...	...	1	6	2	2	9
St. Michael's.....	27·4	11·7	...	...	1	...	...	...	3	...	1	4
St. John's.....	16·6	16·6	...	...	...	...	...	...	4	1	1	5
St. Silas'.....	18·2	7·3	...	...	...	...	...	...	1	...	...	5
St. Paul's.....	21·5	14·3	...	...	...	...	...	...	5	1	...	6
St. Peter's.....	22·0	44·1	...	...	...	...	...	12	4	4	4	8
St. Mary's.....	21·2	44·3	...	...	...	...	...	8	3	...	...	14
St. Matthew's.....	19·2	22·8	...	1	...	...	...	1	7	2	2	6
St. Thomas'.....	18·2	13·6	...	...	1	...	...	1	7	...	2	4
St. Luke's.....	27·3	19·5	...	...	...	...	...	3	1	...	2	9
Park.....	30·3	22·0	...	...	...	...	...	10	1	...	...	5
St. Mark's.....	26·0	18·2	...	...	...	...	...	4	1	...	1	8
St. Andrew's.....	15·8	13·6	...	...	...	...	...	3	...	...	...	9
Borough.....	22·0	19·6	...	1	2	...	...	381	16	15	98	

OCTOBER.	Birth Rate.	Death Rate.	DEATHS.									
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis	All other Causes
St. Stephen's.....	28·2	19·6	...	...	...	...	...	6	2	...	...	8
Trinity.....	36·3	22·7	...	...	1	...	1	4	2	2	2	10
St. Michael's.....	31·6	18·9	...	3	...	...	...	2	1	2	2	7
St. John's.....	16·0	23·4	...	...	1	...	...	1	3	1	1	10
St. Silas'.....	16·5	8·2	...	...	...	...	...	...	2	...	...	5
St. Paul's.....	18·5	19·6	...	...	...	...	2	6	1	1	1	7
St. Peter's.....	30·5	25·9	...	...	...	...	...	3	3	3	1	10
St. Mary's.....	18·8	36·0	...	...	...	...	...	5	2	2	1	13
St. Matthew's.....	33·7	23·2	...	...	...	...	1	2	4	3	3	10
St. Thomas'.....	22·0	9·7	...	...	...	...	...	4	2	1	2	4
Park.....	28·9	21·4	...	...	...	...	...	1	3	2	2	11
St. Luke's.....	32·0	25·3	...	...	...	...	...	8	1	2	2	8
St. Mark's.....	26·4	10·0	...	...	...	...	...	3	...	...	...	5
St. Andrew's.....	21·9	6·6	1	...	1	...	...	...	2	...	...	2
Borough.....	25·9	18·5	1	3	2	1	4	45	28	16	110	

TABLE XXII.—continued.

NOVEMBER.	Birth Rate.	Death Rate.	DEATHS.								
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis.	All other Causes
St. Stephen's.....	29·1	10·1	...	...	...	...	...	...	2	1	5
Trinity	26·9	12·9	...	...	...	...	...	1 2	2	...	6
St. Michael's.....	24·8	19·6	...	...	...	...	...	1 1	1	4	8
St. John's.....	25·9	12·0	...	1	...	...	...	...	2	1	4
St. Silas'	18·2	10·9	...	...	...	...	...	...	1	...	8
St. Paul's	25·0	7·1	...	...	...	...	...	...	2	...	4
St. Peter's.....	26·8	11·3	...	...	...	...	...	...	...	1	7
St. Mary's.....	17·7	28·3	...	...	...	...	1	1	6	1	7
St. Matthew's	31·2	18·0	...	...	...	...	...	...	4	1	10
St. Thomas'	18·2	14·6	...	...	...	...	...	1	3	...	12
Park	35·1	16·9	...	...	1	...	...	...	4	1	7
St. Luke's.....	27·5	17·9	...	...	...	...	...	3	...	...	10
St. Mark's.....	29·9	24·7	...	...	...	1	...	2	4	1	11
St. Andrew's.....	24·9	15·8	...	...	1 1	1	...	2	4	...	5
Borough.....	25·8	15·5	...	1	2 1	3	3 11	35	11	104	

DECEMBER.	Birth Rate.	Death Rate.	DEATHS.								
			Measles	Scarlet Fever	Whooping Cough	Croup	Typhoid Fever	Diphtheria	Diarrhoea	Lung Diseases	Tuberculosis.	All other Causes
St. Stephen's.....	25·7	20·8	...	...	...	...	...	...	7	1	9
Trinity	31·8	28·4	...	...	1 1	...	...	2 1	2	2	16
St. Michael's.....	21·5	12·6	...	...	...	...	...	...	2	1	7
St. John's.....	24·8	11·7	...	...	...	...	...	1	2	...	5
St. Silas'	18·8	2·3	...	...	...	...	...	...	1	...	1
St. Paul's	30·0	12·7	...	...	...	...	...	...	...	1	10
St. Peter's.....	19·8	18·3	...	...	...	...	...	...	2	...	10
St. Mary's.....	32·6	15·4	...	...	...	1	...	...	2	...	6
St. Matthew's	30·2	16·3	...	...	...	...	1 1	...	2	1	9
St. Thomas'	16·7	7·9	...	...	...	...	...	1	2	...	6
Park	28·9	16·3	...	...	1	...	...	...	1	2	9
St. Luke's.....	13·3	16·0	...	...	...	...	...	1	3	...	8
St. Mark's.....	30·2	22·6	...	...	1	...	...	...	...	1	16
St. Andrew's.....	19·6	9·8	...	...	...	...	...	1	2	2	4
Borough.....	24·3	14·8	...	...	3 2	1	5 3	28	11	116	

ZYMOTIC DISEASES.

The Zymotic death-rate during 1906 was 2.42, compared with 2.03 in 1905, and 2.47 in 1904.

The Zymotic death-rates in 1906 for England and Wales were as follows:—

England and Wales	1.73	per 1,000 living.
76 Great Towns	2.24	,,
142 Smaller Towns	1.70	,,
England and Wales (less the 218 towns)	1.18	,,

TABLE XXIII.

	33 Large Towns.	Black- burn.
Seven Zymotic Diseases	2'32	2'42
Smallpox.....	0'001	0'00
Measles .....	.42	0'47
Scarlet Fever	'11	0'24
Whooping Cough	'27	0'12
Typhoid Fever	'09	0'10
Diarrhœa and Epidemic Enteritis	1'22	1'28
Diphtheria	'21	0'19

Regarding the Zymotic Diseases which are compulsorily notifiable, it will be seen on reference to Table XXV. that a total number of 1,221 notifications came to hand during 1906. This is less by 764 than the number received during 1905.

Of these 1,221 notifications, 849, or 69.5 per cent., were cases of Scarlet Fever.

The next most frequently notified diseases were, in order: Diphtheria, Erysipelas, Enteric Fever, and Puerperal Fever.

Regarding the Age-periods of these 1,221 notifications, 594 occurred between 5 and 15 years, 335 between 1 and 5 years, 154 between 25 and 65 years, 114 between 15 and 25 years, 14 under the age of 1 year, and 10 (all Erysipelas) above the age of 65 years.

Of the various wards, the greatest amount of notifiable infection occurred in St. Matthew's, St. Thomas's, and Trinity Wards; and the least amount in St. Peter's and St. Luke's Wards.

NOTIFICATION FEES.

The total cost in fees paid to medical men for notifying cases of Infectious Diseases during 1906 was £161 12s. 6d.

TABLE XXIV.

Shewing number of cases of Infectious Diseases notified from 1888 to 1906.

Disease.	1888	1889	1890	1891	1892	1893	1894	1895	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906
Smallpox	98	...	...	4	79	13	...	...	...	...	...	...	23	...	49	92	2	4	...
Scarlet Fever...	829	737	324	196	190	156	224	287	185	347	615	1476	1117	494	339	458	1578	849	
Diphtheria.....	...	4	5	1	3	38	31	25	15	77	229	334	284	83	132	60	157	166	
Enteric Fever	146	111	121	106	79	161	129	143	179	228	233	163	131	127	97	111	90	82	
Typhus .....	...	...	...	...	1	...	...	...	1	...	1	...	...	...	...	...	...	...	...
Cholera .....	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Total	1073	852	450	303	262	432	336	375	455	380	652	1078	1996	1532	753	660	631	1829	1097

MEASLES.

713 cases of Measles were reported from the Schools during the year. compared with 1,003 cases during 1905, 2,440 cases during 1904. and 998 cases during 1903.

The reported Cases and Deaths occurred in the months in the following numbers :—

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December
Reported Cases	104	109	159	139	99	15	49	...	5	12	10	12
Deaths ...	15	10	12	9	5	4	3	4	0	1	0	0

In 1896 there were 3 cases notified to each death.

.. 1897	..	13	..	..
.. 1898	..	9	..	..
.. 1899	..	17	..	..
.. 1900	..	24	..	..
.. 1901	..	15	..	..
.. 1902	..	15	..	..
.. 1903	..	18	..	..
.. 1904	..	40	..	..
.. 1905	..	24	..	..
.. 1906	..	11	..	..

DEATHS IN AGE PERIODS.

0 to 1	1 to 5	5 to 10	10 to 15	Total.
16	44	3	—	63

It will therefore be seen that Measles was less prevalent during 1906 than during several previous years. The majority of the

cases occurred during the first five months of the year, and were no doubt associated with the extensive epidemic of that disease which occurred during the last three months of 1905.

The type of Measles, however, was more severe during 1906, and the death-rate had increased as compared with the three previous years.

The number of cases of the disease which were notified to each death was lower than it had been since 1898.

The greatest number of deaths occurred below the age of 5 years. In fact, only 3 deaths occurred above the age of 5 years. This is a striking instance of the great fatality of this disease during the first five years of life.

The usual preventive measures, previously described in a Special Report, were adopted throughout the year.

Inquiries were also made as to the number of Measles cases which were attended by medical men.

404 cases were visited by my Inspectors so that this disease could be investigated.

It was found that 242 were attended by a medical man, or 59.9 per cent. The remaining 162 had no medical attendant.

The following Schools were closed during 1906 on account of Measles:—

NAME OF SCHOOL	DATE CLOSED.	PERIOD.
Princes Street Infants	Jan. 10th ...	Until Jan. 29th
Public Higher Grade Boys' Inf. ,,	11th ...	,, , 29th
All Saints' Infants	,, 11th ...	,, , 29th
St. Paul's Infants	,, 12th ...	,, , 29th
Public Higher Grade Boys' Inf. ,,	29th ...	,, Feb. 5th
Park Road Infants'	Feb. 16th ...	,, Mar. 12th
St. Thomas' Infants'	,, 28th ...	,, , 26th

Holy Trinity Infants'	Mar. 8th ...	,,	Apr. 2nd
St. Gabriels'	,, 8th ...	,,	,, 2nd
St. Joseph's Infants'	,, 15th ...	Until after Easter	Holidays.
Public Higher Grade Girls'			
Infant Class	April 3rd ...	,,	
Furthergate Infants	,, 3rd ...	,,	
Maudsley Street Infants'	,, 3rd ...	,,	
St Barnabas' Infants'	,, 9th ...	,,	
St. James', Lower Darwen ...	,, 25th ...	Until May 21st	
Whalley Range Infants'	,, 26th ...	,,	,, 28th
St. Barnabas' Infants'	,, 27th ...	,,	,, 28th
Norfolk Street Infants'	May 11th ...	Until after Whit-	suntide Holidays
Lower Darwen C.	,, 18th ...	Until June 18th	
Accrington Road Infants'	July 9th ...	Until July 23rd	

DEATHS AND DEATH RATES FROM MEASLES
1871—1906.

TABLE XXVI.

Year	Total Deaths	Death Rate	Year	Total Deaths	Death Rate
1871	61	0·8	1889	188	1·6
1872	31	0·3	1890	15	0·1
1873	119	1·4	1891	173	1·4
1874	142	1·7	1892	8	0·06
1875	29	0·3	1893	140	1·1
1876	167	1·9	1894	13	0·01
1877	48	0·5	1895	324	2·5
1878	25	0·2	1896	36	0·2
1879	37	0·3	1897	143	1·0
1880	74	0·7	1898	50	0·38
1881	9	0·08	1899	40	0·29
1882	167	1·5	1900	76	0·55
1883	1	0·009	1901	94	0·72
1884	92	0·8	1902	77	0·58
1885	1	0·009	1903	53	0·40
1886	195	1·7	1904	60	0·45
1887	76	0·6	1905	42	0·31
1888	117	1·0	1906	63	0·47

SCARLET FEVER.

The number of Cases notified during the year was 849, compared with 1,578 Cases during 1905, 458 in 1904, and 339 in 1903.

The following were the Cases and Deaths, in age periods:—

	0-1	1-5	5-10	10-15	15-20	20-25	25 & up
Cases 849	4	270	347	142	47	17	22
Deaths 33	0	20	11	1	1	0	0

These figures show:—

- I. That in 1906 the incidence and mortality from Scarlet Fever below the age of one year were small.
- II. That this disease is most prevalent between the ages of 1 and 5 years and 5 and 10 years (617 cases out of 849 cases, or 72.6 per cent.). This is usually the case with Scarlet Fever.
- III. That also between the two last-named age periods, the greatest number of deaths occurred (31 deaths out of 33 deaths from Scarlet Fever, or 93.9 per cent.
- IV. That there is a diminished incidence and mortality after the age of 15 years.

The following are the Cases arranged in months and quarters for 1906, and compared with similar Cases for 1905:—

	Jan.	Feb.	March	April	May	June
1906 ...	143	75	65	45	66	48
1905 ...	99	114	106	121	120	81
	July	Aug.	Sept.	Oct.	Nov.	Dec.
1906 ...	49	63	67	105	78	45
1905 ...	184	145	121	208	156	123

	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.
1906 ...	283	159	179	228
1905 ...	319	322	450	487

The epidemic of Scarlet Fever which prevailed throughout the year 1905 came to an end in January, 1906, and there was a fall of nearly 50 per cent. in the number of Cases until October, 1906, when there was the usual autumnal increase in the number of Cases of this disease.

The above facts account for the heavier incidence of Scarlet Fever during the first and fourth quarters of 1906 than during the second and third quarters.

The percentage of Cases of this disease removed to the Hospital in the different months was as follows:—

Jan.	Feb.	March	April	May	June
70.0	57.3	76.9	73.3	84.8	72.9
July	Aug.	Sept.	Oct.	Nov.	Dec.
67.3	84.1	80.5	77.1	67.9	73.3

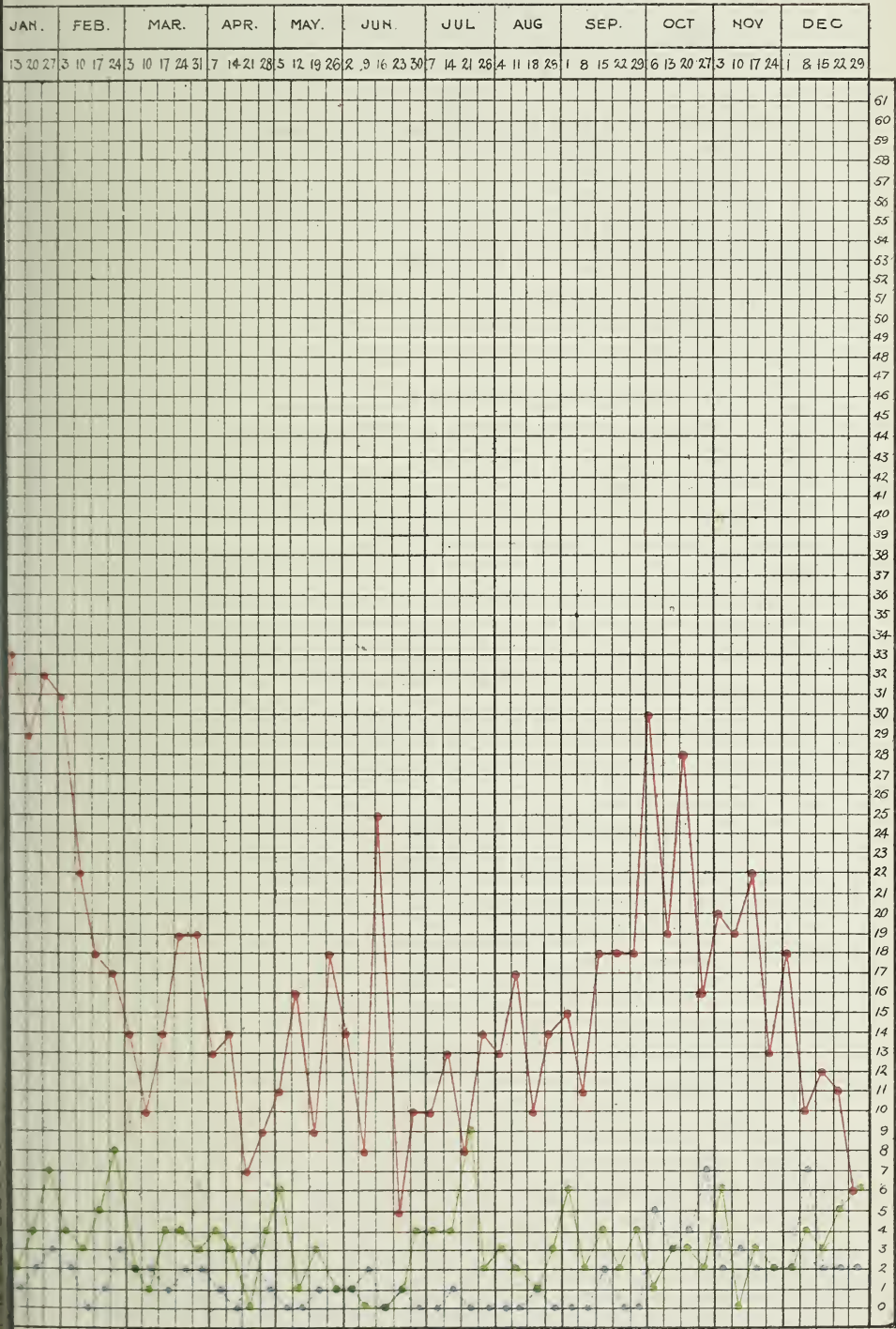
Also the number of Cases in individual houses was as follows:—

In 1 house	there were	7 cases.
„ 1	„	5 „
„ 11 houses	„	4 „ in each house.
„ 30	„	3 „ „
„ 93	„	2 „ „
„ 505	„	„ was 1 case.
3 cases	occurred in the	Infirmary.
4	„	„ Workhouse.
4	„	„ Cottage Homes, Queen's Park Road.
1 case	„	„ „ Hickory Street.

The following Chart shows graphically the weekly notifications of Scarlet Fever during 1906.

CHART 2.

Infectious Diseases notified in weeks.



Red S.F.

Green Dyph

Blue T.F.

The following Table indicates the weekly and daily average number of notifications of Scarlet Fever throughout the year.

TABLE XXVII.
Analysis of Cases of Scarlet Fever.

Week Ending	No. of Cases Notified Weekly	Total Cases Notified during Year	Average Cases Notified Weekly	Average Cases Notified Daily	Week Ending	No. of Cases Notified Weekly	Total Cases Notified during Year	Average Cases Notified Weekly	Average Cases Notified Daily
Jany. 6	25	25	25'0	4'1	July 7	10	452	16'7	2'3
„ 13	33	58	29'0	4'4	„ 14	13	465	16'6	2'3
„ 20	29	87	29'0	4'3	„ 21	8	473	16'2	2'3
„ 27	32	119	29'7	4'4	„ 28	14	487	16'2	2'3
Febry. 3	31	150	30'0	4'4	Aug. 4	13	500	16'1	2'3
„ 10	22	172	28'6	4'1	„ 11	17	517	16'1	2'3
„ 17	18	190	27'1	3'9	„ 18	10	527	15'9	2'2
„ 24	17	207	25'2	3'7	„ 25	14	541	15'9	2'2
Mar. 3	14	221	24'5	3'5	Sept. 1	15	556	15'7	2'2
„ 10	10	231	23'1	3'3	„ 8	11	567	15'7	2'2
„ 17	14	245	22'2	3'2	„ 15	18	585	15'8	2'2
„ 24	19	264	22'0	3'1	„ 22	18	603	15'8	2'2
„ 31	19	283	21'7	3'1	„ 29	18	621	15'9	2'2
April 7	13	296	21'1	3'0	Oct. 6	30	651	16'2	2'3
„ 14	14	310	20'6	2'9	„ 13	19	670	16'3	2'3
„ 21	7	317	19'8	2'8	„ 20	28	698	16'6	2'3
„ 28	9	326	19'1	2'7	„ 27	16	714	16'6	2'3
May 5	11	337	18'7	2'6	Nov. 3	20	734	16'6	2'3
„ 12	16	353	18'5	2'6	„ 10	19	753	16'7	2'3
„ 19	9	362	18'1	2'6	„ 17	22	775	16'8	2'4
„ 26	18	380	8'1	2'6	„ 24	13	788	16'8	2'4
June 2	14	394	17'9	2'5	Dec. 1	18	806	16'7	2'3
„ 9	8	402	17'4	2'5	„ 8	10	816	16'6	2'3
„ 16	25	427	17'7	2'5	„ 15	12	828	16'5	2'3
„ 23	5	432	17'2	2'4	„ 22	11	839	16'4	2'3
„ 30	10	442	17'0	2'3	„ 29	6	845	16'2	2'3

The following Schools were closed on account of Scarlet Fever during 1906:—

NAME OF SCHOOL.	DATE CLOSED.	PERIOD.
St. Albans' Infants'	May 29th ..	Until after Whitsuntide Holidays
St. James' C. E	Oct. 19th...	Until Nov. 19th

No milk supply had any effect in causing the disease to spread during the year.

Dr. Pollard, the Medical Officer of Health for the Rural District, always informs me when cases of Scarlet Fever occur at farms from which milk is sent into Blackburn, and I always arrange for these cases to be removed to our Fever Hospital.

The usual preventive measures were adopted in every case of Scarlet Fever which was notified during the year, and these were described very fully in my Annual Report for 1905.

SCARLET FEVER

TABLE XXVIII.

Year.	Cases notified.	Deaths.	Mortality per 1,000 population.
1875	.....	57	·68
1876	.....	21	·24
1877	.....	38	·42
1878	.....	345	3·59
1879	.....	175	1·77
1880	.....	74	·72
1881	103	23	·22
1882	331	47	·44
1883	275	41	·38
1884	211	45	·41
1885	181	23	·20
1886	422	26	·23
1887	1695	157	1·38
1888	829	175	1·51
1889	737	123	1·05
1890	324	32	·26
1891	196	13	·10
1892	176	13	·10
1893	190	4	·03
1894	156	10	·07
1895	224	8	·06
1896	287	9	·06
1897	185	7	·05
1898	347	16	·12
1899	615	14	·10
1900	1476	83	·65
1901	1117	58	·45
1902	494	31	·23
1903	339	13	·09
1904	458	13	·09
1905	1578	76	·57
1906	849	33	·24

ENTERIC FEVER OR TYPHOID FEVER.

The number of Cases notified during the year was 82, compared with 90 in 1905, 110 in 1904, and 97 in 1903. With the exception of one year, namely, 1892, there has been less Enteric Fever in Blackburn during 1906 than there has been for 25 years. This is a most satisfactory record.

There were 14 Deaths, compared with 15 in 1905, 21 in 1904, and 15 in 1903.

The Cases and Deaths occurred in the following Age-periods:—

Age-Periods.	Cases Notified.	Deaths.	Case Mortality, per cent.	
0-1	0	0	0.0	..
1-2	1	0	0.0	..
2-3	0	0	0.0	..
3-4	3	0	0.0	..
4-5	2	0	0.0	..
5-6	3	0	0.0	..
6-7	2	0	0.0	..
7-8	6	0	0.0	..
8-9	3	0	0.0	..
9-10	2	0	0.0	..
10-15	10	3	30.0	..
15-20	8	2	25.0	..
20-25	10	1	10.0	..
25-35	13	3	23.0	..
35-45	9	2	22.2	..
45 & upwards	10	3	30.0	..
Totals	82	14	17.0	

Out of the 82 Cases notified during 1906, 7 had eaten mussels, 9 had eaten cockles, and 2 had eaten oysters within one month of illness. Thus there was no reason to believe that the consumption of shellfish had aided in the spread of Enteric Fever during the year.

The districts in which these 82 Cases occurred will be seen by reference to the map at the end of the Report. The Audley district was the most affected.

The drains at the 65 houses where these 82 Cases of Enteric Fever occurred were tested. Defects were found at 32 houses, and steps were taken immediately to remedy the same.

The type of sanitary convenience at the infected houses was as follows:—

Water Closets.		Tub Closets.	Middens.
Fresh Water.	Slop Water.		
31	5	25	7

ANALYSIS OF MILK SUPPLIES.

53 milk supplies with 1 case of Enteric in each supply.

4	„	„	2 cases	„	„	„
1	„	„	3	„	„	„

ANALYSIS OF WATER SUPPLIES.

Fishmoor Reservoir.	Guide Reservoir.	Audley Reservoir.
56	4	22

TABLE XXIX.

ENTERIC FEVER IN WARDS AND QUARTERS.

(NOTIFICATIONS).

Wards.	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Totals
St. Stephen's	5	0	0	2	7
Trinity	0	0	0	1	1
St. Michael's	0	0	1	3	4
St. John's	1	2	0	2	5
St. Silas'	0	1	0	3	4
St. Paul's	0	0	1	4	5
St. Peter's	3	1	0	2	6
St. Mary's	1	2	0	4	7
St. Matthew's	4	1	0	12	17
St. Thomas'	6	0	1	1	8
Park	2	1	0	1	4
St. Luke's	2	1	0	3	6
St. Mark's	0	0	0	1	1
St. Andrew's	1	2	0	4	7
Totals	25	11	3	43	82

The monthly notifications of this disease during 1906 were as follows:—

Jan.	Feb.	March	April	May	June
12	6	7	5	3	3
July	Aug.	Sept.	Oct.	Nov.	Dec.
1	0	2	20	10	13

—Total, 82.

There was thus a marked autumnal increase in the notifications of Enteric Fever, which so often occurs in this disease.

97 specimens of blood were examined during the year for Typhoid bacilli, with the following results:—

Positive.	Negative.	Doubtful.	Incomplete.
44	49	1	3

The Cases notified in the four quarters for the years 1899 to 1906 were as follows:—

	First Quarter.	Second Quarter.	Third Quarter.	Fourth Quarter.
1899 ...	84	26	42	81
1900 ...	34	25	27	77
1901 ...	35	24	29	43
1902 ...	33	26	18	50
1903 ...	39	23	16	19
1904 ...	26	15	13	57
1905 ...	20	18	10	42
1906 ...	25	11	3	43

Therefore the fourth quarter of the year has generally had the heaviest incidence of Enteric Fever. The very marked drop in the number of cases during the third quarter of 1906 was most noteworthy.

ENTERIC FEVER.

TABLE XXX.

Year	Cases Notified.	Deaths.	Mortality per 1,000 Population.
1880	...	43	·41
1881	289	68	·65
1882	210	50	·47
1883	442	84	·78
1884	268	67	·61
1885	130	28	·25
1886	105	34	·30
1887	153	41	·36
1888	146	39	·33
1889	111	20	·17
1890	121	37	·31
1891	106	24	·19
1892	79	32	·26
1893	161	27	·22
1894	129	32	·26
1895	119	28	·22
1896	143	33	·26
1897	179	35	·28
1898	228	30	·23
1899	233	40	·31
1900	163	30	·23
1901	131	17	·13
1902	127	23	·17
1903	97	15	·11
1904	111	21	·15
1905	90	15	·11
1906	82	14	·10

The following Table gives particulars of all the cases of Enteric Fever which were notified during the year 1906:—

ENTERIC FEVER.—Table XXXI.

No.	Age.	Days ill before notification after 1st case.	Cases of Typhoid occurring in same house after 1st case.	Closet Accommodation				CONDITION OF			Other Remarks.
				W.C.	Tub.	Ashpit	Slopwater	Yard.	Back road.	Drainage.	
1	5½	16	...	1	...	...	...	flagged	paved	good	
2	15	6	...	...	...	1	...	flagged	paved	good	
3	21	10	...	...	...	1	...	flagged	paved	defective	
4	21½	14	...	...	...	1	...	partly flagged	unpaved	defective	
5	29	7	...	1	...	...	...	flagged	paved	defective	
6	28	3	...	...	...	...	...
7	35	10	...	1	...	...	...	flagged and cobbled	paved	good	
8	38	7	...	1	...	...	...	passage flagged	paved	defective	
9	24	13	...	...	...	1	...	cobbled	paved	good	
10	7	8	...	1	...	...	...	flagged	paved	good	
11	16	7	...	...	...	1	...	passage flagged and cobbled	paved	good	
12	9½	3	...	...	...	1	...	flagged	paved	good	
13	28	15	...	...	...	1	...	flagged (bad)	unpaved	good	
14	7½	12	...	...	...	1	...	flagged	unpaved	good	

This case occurred at the Blackburn
Union Workhouse.

Closet
Accommodation

No	Age	Days ill before notifi- cation after 1st case.	Cases of Typhoid occurring in same house after 1st case.	W.C.	Tub.	Asphalt.	Slopewater	CONDITION OF			Other Remarks.
								Yard.	Back road.	Drainage.	
15	8	14	...	1	...	...	...	flagged	none	defective	
16	39	27	...	1	...	...	...	flagged	unpaved	defective	
17	45	12	another case notified Feb. 26	1	...	...	...	flagged	paved	good	
18	3½	7	...	1	...	...	...	flagged and cobbled	paved	defective	
19	5½	14	...	1	...	...	...	flagged	unpaved	good	
20	34	17	...	1	...	...	...	flagged	passage flagged	good	
21	6½	2	another case notified March 19	...	...	...	...	flagged	paved	defective	
22	49	18	...	1	...	...	...	partly flagged.	paved (bad)	defective	
23	12½	14	...	1	...	...	...	flagged	paved	good	
24	56	6	...	1	...	...	...	flagged	unpaved	defective	

No.	Age.	Days ill before notification, same house or after 1st case.	Cases of Typhoid occurring in same house	W.C.	Fib.	Asphalt.	Slopewater	CONDITION OF			Other Remarks.
								Yard.	Back road.	Drainage.	
25	4	10	...	1	...	...	...	flagged and cobbled	paved	good	
26	24 $\frac{1}{2}$	24	...	1	...	...	...	flagged and cobbled	paved	defective	
27	34	...	...	...	...	1	...	flagged	paved (bad)	good	
28	29	9	...	...	...	...	...	...	...	...
29	3	27	...	1	...	...	...	flagged and cobbled	paved	good	
30	25	14	...	1	...	...	...	flagged	paved	no test	
31	15	8	...	1	...	...	...	flagged	cobbled	defective	
32	22	10	...	1	...	...	...	flagged	passage flagged	defective	
33	22	12	...	1	...	...	...	partly flagged	paved	good	
34	13 $\frac{3}{4}$	14	...	...	...	1	...	flagged	paved	defective	
35	16 $\frac{3}{4}$	11	...	...	...	1	...	cobbled and bricked	paved	good	
36	7	31	...	...	...	1	...	partly flagged	none	defective	This case occurred at the Blackburn and East Lancashire Infirmary.

Closet
Accommodation

No.	Age	Days ill before notifi- cation	Cases of Typhoid occurring in same house after 1st case.	W.C.	Tub.	Asphalt.	Stopwater	CONDITION OF			Other Remarks.
								Yard.	Back road.	Drainage	
37	44	...	...	...	...	...	...	...	...	...
38	20	7	two more cases noti- fied Oct. 4 and Oct. 9	1	1	...	cobbed	paved	defective		This case occurred at the Blackburn Union Workhouse
39	28	17	...	1	...	...	flagged	paved	defective		
40	16	7	...	1	...	...	flagged	paved	defective		
41	8 $\frac{3}{4}$	7	...	1	...	...	flagged and cobbed	paved	defective		
42	12	16	...	...	...	...	...	...	...
43	10 $\frac{3}{4}$	13	...	1	...	...	flagged	paved	defective		
44	16 $\frac{3}{4}$	10	another case notified Nov. 20	1	...	...	flagged	paved	good		
45	3	2	...	...	...	1	flagged and cobbed	paved	defective		
46	6	14	...	1	...	...	flagged and cobbed	paved	good		This case occurred at the Blackburn and East Lancashire Infirmary

Closet
Accommodation

No	Age.	Days ill before notifi- cation latter 1st case.	Cases of Typhoid occurring in same house after 1st case.	W.C.	Tub.	Asphlt.	Slopewater	CONDITION OF			Other Remarks.
								Yard.	Back Road	Drainage.	
47	40	9	...	...	1	...	...	flagged and cobbled	paved	good	
48	25	8	...	1	...	...	...	flagged and cobbled	paved	defective	
49	7	17	...	1	...	...	...	flagged	paved	good	
50	27	9	...	1	...	...	...	cobbled	paved	good	
51	8	9	...	1	...	...	...	flagged	paved	good	
52	14	11	...	1	...	...	...	flagged	paved	defective	
53	22	8	...	1	...	...	...	flagged and cobbled	paved	defective	
54	47	3	another case notified Nov. 28	1	...	...	...	flagged	paved	defective	
55	18½	9	...	1	...	...	...	flagged	paved	good	
56	56	5	...	1	...	...	...	flagged	passage flagged	good	
57	47	6	...	1	...	...	1	flagged, bricked and cobbled	paved	defective	

Closet
Accommodation

No	Age.	Days ill before notification	Cases of Typhoid occurring in same house after 1st case.	W.C.	Tub.	Asphalt.	Slopewater	CONDITION OF			Other Remarks.
								Yard.	Back road.	Drainage.	
5	18	20	another case notified Nov. 9	1	.....	.....	.....	flagged and cobbled	cobbled (bad)	defective	
51	33	16	Another case notified Dec. 13	1	.....	.....	.....	flagged and cobbled	paved	good	
60	22	5	...	.....	.....	.....	.....
61	43	11	...	1	.....	.....	.....	flagged	paved	good	
62	7	14	...	1	.....	.....	.....	flagged and cobbled	paved	defective	
63	10	31	two more cases notified Dec. 3	1	.....	.....	.....	none	none	...	
64	11	11	...	.....	.....	.....	.....	flagged and cobbled	paved	good	
65	34	11	...	1	.....	.....	.....	cobbled	paved	defective	
66	55	15	...	1	.....	.....	.....	unflagged	none	good	

This case occurred at the Blackburn
Fever Hospital

Closet
Accommodation

No.	Age.	Days ill before notification after 1st case.	Cases of typhoid occurring in same house after 1st case.	W.C.	Tub.	Ashpit.	Slopewater	CONDITION OF			Other Remarks
								Yard.	Back road.	Drainage.	
67	39	9	...	...	1	...	...	flagged	paved	good	
68	43	26	...	1	...	...	...	flagged	paved	defective	
69	31	17	...	...	1	...	...	flagged and cobbled	paved	defective	
70	46	9	...	...	1	...	...	cobbled	paved	defective	
71	32	14	...	1	...	...	...	flagged	paved	good	
72	46	14	...	...	...	...	1	flagged and cobbled	paved	good	

DIPHThERIA AND MEMBRANOUS CROUP.

The number of Cases notified during the year was 166, compared with 157 in 1905, 60 in 1904, and 132 in 1903.

There were 26 Deaths out of the 166 Cases, or a case mortality of 15.6 per cent., compared with a case mortality of 21 per cent. during the year 1905.

The highest incidence and mortality occurred between the ages of 1 and 10 years. Beyond the age of 10 years the incidence was small and the mortality nil.

84 Cases occurred amongst school children.

The following are the Cases and Deaths in Age-periods:—

Age Periods in Years.	Notified Cases.		Deaths.	
0—1	5	5	2	2
1—2	7	} 55	4	} 13
2—3	12		4	
3—4	14		2	
4—5	22		3	
5—6	15	} 59	5	} 11
6—7	14		4	
7—8	16	} 14	1	} 0
8—9	5		0	
9—10	9		1	
10—15	12	12	0	0
15—20	15	15	0	0
20—25	7	} 14	0	} 0
25—35	7		0	
35 upwards	6	6		
		<hr/> 166		<hr/> 26

The following are the Cases, arranged in months, for the years 1905 and 1906:—

	Jan.	Feb.	Mch.	Apr.	May	June	
1905	11	7	9	11	10	8	
1906	19	19	13	12	11	5	
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Totals.
1905	14	10	12	15	17	33	157
1906	20	14	12	15	7	19	165

And arranged in quarters:—

Year.	1st Quarter	2nd Quarter	3rd Quarter.	4th Quarter
1899	58	25	61	85
1900	92	76	54	112
1901	117	70	55	42
1902	19	17	20	27
1903	56	29	30	17
1904	22	12	7	19
1905	27	29	36	65
1906	51	28	46	41
Totals	442	286	309	408

Thus the greatest number of cases occurred during the first quarter and the least number during the second quarter of 1906.

These 166 cases of Diphtheria occurred at 155 houses, 1 case occurred in the Fever Hospital, and 1 case in the Infirmary.

The following is an analysis of those houses according to the sanitary conditions which existed at the time of notification.

The sanitary conveniences were as follows :—

At 80 houses	there were fresh water closets.
„ 56	„ pail closets.
„ 14	„ slop water closets.
„ 5	„ privy middens.

Of the Back Yards at these houses :—

79	were flagged.
6	were partly flagged.
47	were flagged and cobbled.
5	were cobbled.
3	were flagged and bricked.
10	were flagged and gardened.
2	were flagged, gardened, and asphalted.
1	was asphalted.
1	was unflagged.
In 3 Yards	there were structures.

Of the Back Roads and Passages :—

101	were paved.
10	were cobbled.
13	were flagged.
2	were asphalted.
1	was flagged and cobbled.
21	were unpaved.
7 houses	had no Back Road or Passage.

At 61 houses the Back Yards were out of repair, and notices were served on the owners to remedy the same.

During the year 338 bacteriological examinations were made of swabs taken from cases of sore throat by medical men. These examinations were conducted by myself and my assistant at the Fever Hospital Laboratory, and were appreciated very much by the medical practitioners of the Borough.

The results were as follows:—98 gave a positive result, and 240 gave a negative result.

The following analysis of the notified cases of Diphtheria in association with a bacteriological examination of throat swabs is interesting:—

Notified cases from which swabs had been taken, and which, on examination, proved to contain Diphtheria bacilli, 83. This number includes 16 swabs which were taken for purposes of disinfection.

Notified cases from which swabs had been taken, and, on examination, proved not to contain Diphtheria bacilli, 6.

Notified cases from which no swab had been taken, 77.

In 67 cases a swab was taken before the case was notified, of which 62 were positive and five negative.

In 37 cases a second swab was taken before the house was disinfected.

Sixty-two cases were removed to Hospital.

In 13 cases no swab was taken before disinfection.

In 16 cases Diphtheria bacilli were found in second and subsequent throat swabs submitted.

During the year 1905, 345 swabs were taken.

Out of the 166 cases of Diphtheria notified during 1906, antitoxin was injected in 86 cases.

This is a most valuable remedy, especially when used during the first three days of the illness, and is supplied free by the Corporation, as it is a useful public health preventive measure.

The amount used during the year was 180 bulbs of 4,000 units each, as follows:—

Fever Hospital	109
Medical men (Police Stations)	20
Medical men (Health Office)	51
	— — —
	180

DIPHTHERIA.

TABLE XXXII.

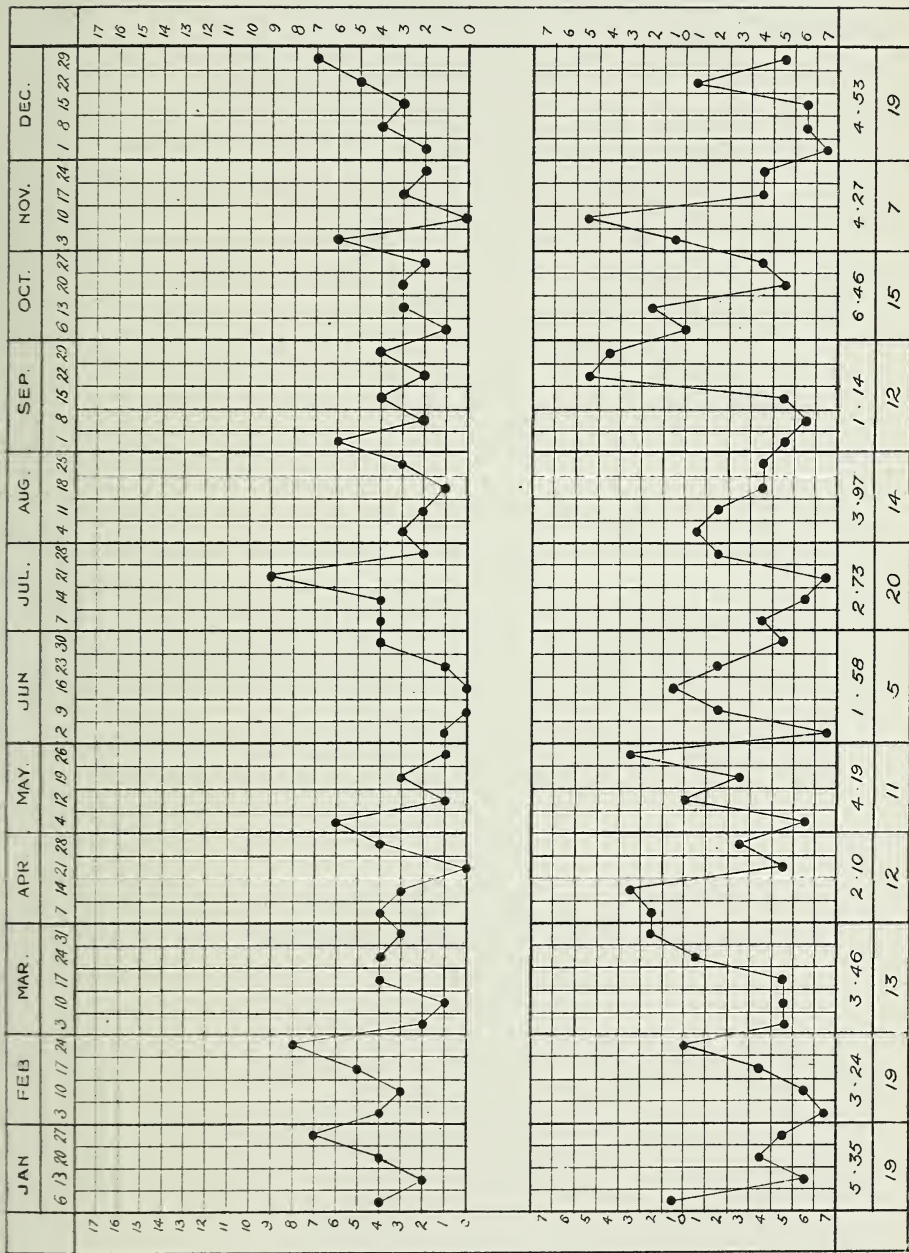
Year.	Cases Notified.	Deaths.	Mortality per 1,000 Population.
1880	.....	...	0'00
1881	.....	...	0'00
1882	.....	2	0'01
1883	.. ...	2	0'01
1884	.....	1	0'009
1885	.....	1	0'009
1886	.....	...	0'00
1887	.....	1	0'008
1888	.....	1	0'008
1889	4	4	0'03
1890	5	4	0'03
1891	1	.	0'00
1892	3	1	0'008
1893	3	2	0'01
1894	40	14	0'11
1895	31	7	0'05
1896	25	10	0'08
1897	15	5	0'04
1898	77	32	0'25
1899	229	74	0'58
1900	334	91	0'71
1901	284	62	0'48
1902	83	23	0'17
1903	132	26	0'19
1904	60	11	0'08
1905	157	33	0'24
1906	166	26	0'19

TABLE XXXIII.

Cases of Diphtheria Notified in Wards.

WARDS.	1906	1905	1904	1903	1902	1901	1900	1899
St. Stephen's..	10	9	3	13	4	15	21	16
Trinity	20	16	6	10	4	23	33	13
St. Michael's..	19	20	1	3	7	18	22	6
St. John's	11	16	5	9	2	20	16	15
St. Silas'	9	11	14	32	7	25	11	10
St. Paul's	15	11	3	7	6	15	16	18
St. Peter's	1	6	4	1	9	9	12	25
St. Mary's	14	18	5	2	7	16	29	14
St. Matthew's.	12	13	4	3	7	47	48	42
St. Thomas' ...	6	8	...	16	11	18	23	7
Park	10	8	5	9	10	17	30	13
St. Luke's	6	5	7	2	2	20	20	23
St. Mark's.....	6	5	3	9	4	20	27	9
St. Andrew's...	27	11	...	16	3	21	26	18
Totals...	166	157	60	132	83	284	334	229

Chart 3. Diphtheria.



NOTIFIED CASES
OF
DIPHtheria

E
DIRECTION OF WIND
W

RAINFALL IN EACH
MONTH.
CASES OF DIPHTHERIA IN
EACH MONTH.

DIARRHŒA AND EPIDEMIC ENTERITIS.

The number of deaths from Diarrhœa and Epidemic Enteritis was 171.

The deaths from this cause during 1904 and 1905 were 125 and 93 respectively.

Therefore the year 1906 does not present such a favourable record as the previous years. The majority of these deaths occurred during the months of September and October.

When the reading of the 4ft. thermometer exceeds 56 degrees Fahrenheit, a condition arises which is probably associated with an increase in the number of Diarrhœa deaths. The condition is also rendered still more favourable for the spread of this disease when flies and dust abound, and when food putrefies rapidly.

When the 4ft. thermometer registered nearly 56 degrees F. I sent handbills setting forth precautions against Summer Diarrhœa to many parts of the town.

As important measures in preventing the occurrence of this disease, I would urge you to complete the abolition of the old-fashioned privy middens, to continue the flagging of back yards, which diminishes soil pollution, and to demolish erections in yards when such are a nuisance.

In this connection also the adoption of educational measures in "infant feeding" and "essentials of domestic hygiene" is absolutely necessary.

A reference to Table VIII. will show that most of the Deaths from Diarrhœa and Epidemic Enteritis occurred below the age of one year.

I have again made inquiries at houses where deaths from Diarrhoea occurred, according to age, number of days ill before death, occupation of mother, feeding of the child, means of storage of milk and food, sanitary accommodation, condition of the yard, condition of the back passage, and structures in the yard.

The following is a summary of the results of these visits.

As to the number of days the children were ill before death occurred it was found that:—

1	was ill	12	hours	before	death.
8	were ill	1	day	„	„
19	„	„	2	days	„
17	„	„	3	„	„
7	„	„	4	„	„
8	„	„	5	„	„
10	„	„	6	„	„
38	„	„	7	„	„
6	„	„	8	„	„
6	„	„	9	„	„
6	„	„	10	„	„
1	was	„	12	„	„
20	were	„	14	„	„
1	was	„	20	„	„
1	„	„	26	„	„
9	were	„	3	weeks	„
1	was	„	5	„	„
1	„	„	6	„	„
1	„	„	7	„	„
1	„	„	8	„	„
1	„	„	10	„	„
1	„	„	32	„	„
3	were	„	1	month	„
4	not	ascertained.			

As to the occupation of mothers, the following was found :---

69	House duties.
46	Weavers.
15	Cardroom hands.
10	Winders.
8	Ring spinners.
3	Charwomen.
1	Shop assistant.
1	Tailoress.
1	Laundress.
1	Shopkeeper.
16	Not ascertained.

As to the method of feeding, it was found that :—

54	were fed with boat-shaped bottle.
39	„ „ tube-shaped bottle.
15	„ on the breast.
12	„ with spoon.
10	„ „ breast and boat-shaped bottle.
9	„ „ breast and tube-shaped bottle.
5	„ „ breast and spoon.
5	„ „ tube and boat-shaped bottles.
4	„ „ tube-shaped bottle and spoon.
2	„ „ boat-shaped bottle and spoon.
16	means not ascertained.

The method of keeping the milk was very unsatisfactory in many cases. The milk vessel was rarely covered, and it was also often so placed that it could be contaminated in many ways.

The sanitary conveniences were as follows :—

At 83	houses	there	were	fresh-water	closets.
„ 70	„	„	„	pail	closets.
„ 11	„	„	„	slop-water	closets.
„ 5	„	„	„	privies.	
„ 2	„	„	„	trough	closets.

Of the back yards at these houses : - -

85	were	flagged.
65	„	flagged and cobbled.
7	„	cobbled.
7	„	partly flagged.
2	„	flagged and gardened.
1	was	flagged, bricked, and cobbled.
1	„	tiled.
3	houses	had no yard.
	In one	yard there was a structure.

Of the back roads and passages : - -

117	were	paved.
17	„	flagged.
14	„	cobbled.
7	„	unpaved.
1	was	bricked.
15	houses	had no back road or passage.

The following are particulars of the deaths from Diarrhoea arranged in tabular form :—

No.	Age.	Days ill before	Work of mother	If returned to work since birth of child	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
1	64 years	7 days	...	...	...	.	Pail	Cobbled and flagged	Paved	None
2	2 months	3 days	House duties	...	Tub-shaped bottle	Cool place in clean vessels	Short hopper water-closet	Cobbled (in bad condition)	Paved (uneven)	None
3	7 months	4 days	House duties	...	Breast and boat-shaped bottle	Cool place in clean vessels	Pail	Flagged and cobbled	Bricked	None
4	62 years	6 days	...	...	...	...	Pail	Flagged, and bricked, and cobbled (bad)	Paved	None
5	11 days	2 days	Cardroom hand	No	Breast and tub-shaped bottle	Clean vessels	Pail	Cobbled and flagged (bad)	Paved	None
6	16 months	5 days	Weaver	Two months after birth	Breast and spoon	Clean vessels	Washdown pedestal water-closet	Flagged	Cobbled	None
7	1 month	5 days	Weaver	About three weeks after birth	Boat-shaped bottle	Stored in cool place	Short hopper water-closet	Flagged and cobbled	Paved	None
8	2 years	3 days	House duties	...	Spoon-fed	...	Pail	Flagged	Paved	None

TABLE XXXIV.—Continued.

No.	Age.	Days ill before	Work of mother	If returned to work since birth of child	Feeding of child	Means of milk storage and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
9	16 days	7 days	House duties	...	Boat-shaped bottle	Clean vessels	Tippler slop-water closet	Flagged	Unpaved	None
10	1 month	3 days	House duties	...	Boat-shaped bottle	Cool place in clean vessels	Short hopper water-closet	Flagged	Paved	None
11	9 months	3 days	Weaver	Five months after birth	Tube-shaped bottle	In cool place	Pail	Flagged and cobbled	Paved	None
12	8 months	7 days	Weaver	No	Tube-shaped bottle	In cool place	Short hopper water-closet	Flagged (bad)	None	None
13	26 days	3 days	Shop assistant	No	Boat-shaped bottle	Covered up in cool place	Washdown pedestal water-closet	Flagged (uneven)	Paved	None
14	5 years	1 day	House duties	...	...	...	Tippler slop-water-closet	Flagged	Paved	None
15	6 months	7 days	House duties	..	Tube-shaped bottle	Nestle's milk kept in cupboard	Washdown pedestal water-closet	Flagged	Cobbled	None
16	11 months	1 day	House duties	...	Spoon-fed	Clean vessels	Washdown pedestal water-closet	Flagged and cobbled	Paved	None
17	3 months	4 days	House duties	...	Breast fed	...	Pail	Flagged and cobbled	Paved	None

TABLE XXXIV.—Continued.

No.	Age.	Days ill before	Work of mother	If returned to work since birth	Feeding of child	Means of milk storage and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structure in
18	53 years	7 days	...	...	...	...	Tippler slop-water-closet	Cobbled and part flagged (bad)	Paved	None
19	12 days	4 days	Tailoress	No	Boat-shaped bottle	Cool place in clean vessels	Pail	Flagged and garden-d (bad)	Paved	None
20	10 months	7 days	House duties	...	Tube-shaped bottle	Cool place in clean vessels	Pail	cobbled (uneven)	Paved	None
21	1 month	7 days	Cotton winder	No	Breast and tube-shaped bottle	Clean vessels	Washdown pedestal water-closet	Flagged	Paved	None
22	8 months	6 days	Weaver	Five weeks after birth	Boat-shaped bottle	Milk boiled and kept in clean vessels	Pail	Flagged	Cobbled (uneven)	None
23	1 month	2 days	Weaver	No	Boat-shaped bottle	Milk kept in jug immersed in cold water	Washdown pedestal water-closet	None	Paved	None
24	22 days	7 days	Cardroom hand	No	Breast and boat-shaped bottle	Nestle's milk	Washdown pedestal water-closet	Flagged	Cobbled (uneven)	None
25	13 weeks	36 hours	House duties	...	Boat-shaped bottle	Cool place in clean vessels	Short hopper water-closet	Flagged	None	None

TABLE XXXIV.—Continued.

No.	Age	Days ill before death	Work of mother	If returned to work since birth of child	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
26	14 weeks	6 days	House duties	...	Boat-shaped bottle	Nestle's milk kept clean	Pail	Flagged and cobbled	Paved	None
27	4 months	21 days	House duties	...	Boat-shaped bottle	Milk boiled and kept in clean vessels	Pail	Cobbled and flagged (uneven)	Paved	None
28	12 months	24 hours	Cartroom hand	11 months after birth	Boat-shaped bottle	Milk boiled and kept in cool place in clean vessels	Washdown pedestal water-closet	Cobbled (uneven)	Flagged	None
29	6 months	3 weeks	Weaver	Two months after birth	Glass tube feeding bottle	Milk kept in cool and clean place	Tippler slopwater closet	Flagged	Paved	None
30	2 months	14 days	House duties	...	Breast and boat-shaped bottle	Milk kept in cool place	Pail	Flagged	None	None
31	48 years	28 days	...	...	...	...	Pail	Flagged and cobbled	Paved	None
32	8 months	7 days	House duties	...	Boat-shaped bottle	Clean and cool place	Washdown pedestal water-closet	Flagged and cobbled	Paved	None
33	2 months	7 days	Chau woman	Six weeks after birth	Spoon fed	Stored in clean vessels	Washdown pedestal water-closet	Flagged	None	None

No.	Age.	Days <input type="checkbox"/> before	Work of mother	If returned to work since birth	Feeding of child	Means of milk storage and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
34	5 months	7 weeks	Cardroom hand	Three months after birth ^g	Tube-shaped bottle	Stored on shelf over slopstone	Short hopper water-closet	Flagged and cobbled	None	None
35	4 months	5 days	House duties	...	Boat-shaped bottle and fed with spoon	Milk boiled and stored in cool place	Short hopper water-closet	Flagged	Flagged	None
36	5 months	2 days	House duties	...	Boat-shaped bottle	Milk boiled, stored in cool place in clean vessels	Pail	Flagged (uneven)	Paved	None
37	15 months	5 days	Weaver	Nine months after birth	Spoon fed	Food stored in pantry	Washdown pedestal water-closet	Flagged	None	None
38	19 years	32 weeks	...	...	...	...	Short hopper water-closet	Flagged	Paved (uneven)	None
39	4 months	14 days	Weaver	Seven weeks after birth	Long tube-shaped bottle and spoon fed	Stored in clean and cool place	Tippler slopwater closet	Flagged and cobbled	Paved	None
40	9 months	8 weeks	Cardroom hand	Four weeks after birth	Tube-shaped bottle	Stored in cool place	Washdown pedestal water-closet	Flagged	Cobbled (uneven)	None

TABLE XXXIV.—Continued.

No.	Age.	Days ill before death	Work of mother	If returned to work since birth	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
41	58 years	7 days	...	...	...	...	Washdown pedestal water-closet	Flagged and cobbled	Cobbled	None
42	17 months	7 days	Weaver	One month after birth	Breast fed (7 months), tube-shaped bottle afterwards	Food kept as fresh as possible	Pail (very insanitary)	Flagged	None	None
43	24 days	7 days	House duties	No	Spoon fed	Stored in clean vessels	Pail	Flagged	Paved	None
44	3 months	3 weeks	Weaver	Ten weeks after birth	Boat-shaped bottle and fed with spoon	Stored in clean and cool place	Washdown pedestal water-closet	Flagged and cobbled	Flagged	None
45	16 days	7 days	cardroom hand	No	Breast fed	...	Washdown pedestal water-closet	Flagged	Paved	None
46	1 month	8 days	House duties	...	Boat-shaped bottle	Stored in pantry	Short hopper water-closet	Flagged and cobbled	Paved	None
47	20 months	3 days	House duties	No	Long bottle and same as family	In back kitchen on squeezers	Washdown water-closet	Flagged	Cobbled	None

TABLE XXXIV.—Continued.

No.	Age	Days ill before death	Work of mother	If returned to work since birth of child	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
48	71 years	3 days	...	...	...	...	Pail	Flagged and cobbled	Paved	...
49	19 months	7 days	House duties	...	Boat shape and as family	Back kitchen	Washdown water-closet	Flagged	Unpaved	...
50	5 months	14 days	House duties	...	Boat shape	Swiss milk, scullery	Pail	Flagged and cobbled bad	Cobbled	...
51	3 months	10 weeks	House duties	...	Prepared food	Kitchen	Washdown water-closet	Flagged	None	Yes
52	3 months	2 days	House duties	...	Breast	...	Washdown water-closet	Flagged	Flagged	...
53	17 months	10 days	House duties	...	By hand	...	Pail	Flagged	Paved	...
54	4 months	14 days	Weaver	When child was 4 weeks	Boat shape, barley water	...	Washdown water-closet	Flagged	Flagged	...
55	4 months	5 days	Weaver	When child was 8 weeks	Boat shape	In back kitchen under slopstone	Pail	Flagged and cobbled	Cobbled	...
56	10 months	7 days	Weaver	When the child was 6 weeks old	Long tube bottle	In back kitchen	short hopper water closet	Flagged	Cobbled	...
57	6 months	12 hours*	Weaver	When child was 5 months*	Long tube bottle	Pantry	Pedestal	Flagged	Paved	...

TABLE XXXIV.—Continued.

No.	Age	Days ill before death	Work of mother	If returned to work since birth	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
58	1 month	2 days	House duties	...	Long tube bottle	Kitchen and back kitchen	Short hopper water closet	Flagged	Unpaved	...
59	3 months	14 days	Second-hand clothes dealer	...	Breast	...	Short hopper water closet	Flagged	...	...
60	8 months	14 days	Ring spinner	When the child was 7 months	Long tube bottle	Back kitchen	Tippler closet	Flagged and cobbled	Paved	...
61	12 months	7 days	Cardroom hand	When child was 11½ months	Breast	...	Short hopper water closet	Flagged	Flagged	...
62	5 months	14 days	House duties	...	Long tube and boat shape	In the back kitchen	Pedestal	Partly flagged	...	...
63	8 months	14 days	House duties	...	Boat shape	Scullery	Short hopper water closet	Flagged	Paved	...
64	4 months	8 days	House duties	...	Boat shape	Back kitchen	Short hopper water closet	Flagged	Paved	...
65	18 months	6 weeks	Cardroom hand	When the child was 9 months old	Breast for 6 months and then by hand	Back kitchen	Pail	Flagged and cobbled	...	...

TABLE XXXIV.—Continued

No.	Age.	Days ill before death	Work of mother	If returned to work since birth of child	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
66	6 months	3 days	Ring spinner	When the child was 3 weeks old	Fed by hand	Back kitchen	Pail	Flagged	Cobbled	..
67	4 months	7 days	Ring spinner	When the child was 7 weeks old	Breast for 3 weeks then boat shape	Kitchen	Trough closet	...	...	..
68	6 months	14 days	Cardroom hand	When the child was 4 weeks old	Boat shape bottle	Kitchen	Pail	Cobbled and flagged	...	..
69	7 months	...	Removed	...	...	...	Pedestal	Flagged and cobbled	Flagged passage	..
70	14 months	7 days	Cardroom hand	When the child was 4 months	Boat shape	Kitchen	Pedestal	Flagged	Paved	..
71	3 months	2 days	Weaver	...	Long tube bottle	Back kitchen	Pail	Cobbled and flagged	Cobbled	..
72	7 days	3 days	Laundress	...	Fed by hand milk and barley water	Kitchen	Wash out, w.c.	Partly flagged	...	..
73	7 months	4 weeks	House duties	...	Boat bottle	In a jug covered in kitchen	W.C. hopper	Flagged and cobbled	Flagged	..

TABLE XXXIV.—Continued.

No.	Age	Days ill before death	Work of mother	If returned to work since birth	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
74	6 months	2 days	House duties	...	Tube bottle and spoon	Jug covered in back kitchen	Short hopper water closet	Flagged	Paved	None
75	4 months	3 days	House duties	...	Tube bottle and boat bottle	On shelf in back kitchen	Slopwater water closet	Flagged	Paved	None
76	4 months	4 days	House duties	...	Tube bottle and boat bottle	On shelf in back kitchen	Slopwater water closet	Flagged	Paved	None
77	3 months	20 days	Weaver	Five weeks	Breast 5 weeks boat bottle after	On shelf in back kitchen	Pedestal water closet	Flagged (bad)	Paved	None
78	3 months	5 days	Cardroom hand	Five weeks	Tube bottle	In jug uncovered near slopstone	Pedestal water closet	Flagged	Paved	None
79	17 years	1 day	...	...	...	...	Pail	Flagged	Paved	None
80	39 years	5 weeks	...	...	...	...	Short hopper water closet	Flagged and cobbled	Paved	None
81	3 years	14 days	House duties	...	Breast only one year	In jug covered in kitchen	Short hopper water closet	Flagged	Paved	None
82	35 years	...	...	...	...	...	Privy	Flagged and cobbled	Cobbled	None
83	8 months	1 day	Weaver	3 months	Breast three months, tube bottle after	In jug covered in living room	Short hopper water closet	Flagged	Paved	None

No.	Age	Days ill before death	Work of mother	If returned to work since birth	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
84	57 years	...	...	...	...	...	Pail closet	Flagged and cobbled	Paved	None
85	4 years	2 days	House duties	...	Breast only	In jug covered in back kitchen	Pail closet	Flagged	Paved	None
86	4 months	14 days	Weaver	No	Boat bottle	Jug covered in back kitchen	Pail closet	Flagged and cobbled	Paved	None
87	18 days	4 days	House duties	...	Spoon fed only	In jug covered in back kitchen	Pail closet	Flagged	Paved	None
88	10 months	8 days	Weaver	Two months	Breast 5 weeks tube bottle after	In a jug covered in back kitchen	Short hopper water closet	Flagged and cobbled	Flagged	None
89	6 months	3 days	Weaver	Two months	Boat bottle	In a jug covered in back kitchen	W.C. pedestal	Flagged and cobbled	Paved	None
90	17 months	7 days	Weaver	Six months	Boat bottle	In a jug covered in back kitchen	Privy	Cobbled (bad)	Flagged	None
91	4 months	9 days	House duties	...	Tube bottle	In jug covered in back kitchen	McFarlane trough closet	Cobbled (good)	Paved	None
92	27 days	5 days	House duties	...	Breast 10 days tube bottle after	In back kitchen in a jug covered	Pail closet	Flagged and cobbled	Paved	None

TABLE XXXIV.—Continued.

No.	Age	Days ill before death	Work of mother	If returned to work since birth	Feeding of child	Means of milk storage and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
93	6 months	14 days	House duties	...	Breast 3 months, boat bottle after	In a jug covered near slopstone	Pail closet	Flagged and cobbled	Paved	None
94	5 months	5 days	House duties	...	Breast only	In jug covered in back kitchen	Shout hopper water closet	Flagged and cobbled	Paved	None
95	10 months	3 days	Ring spinner	Three months	Breast 3 months, breast and spoon after	In jug covered in back kitchen	Privy	Flagged and cobbled	Unpaved	None
96	5 months	21 days	House duties	...	Boat bottle	In jug covered in back kitchen	Pail closet	Flagged and cobbled (bad)	Paved	None
97	2 months	7 days	Weaver	No	Breast 5 weeks boat bottle after	In jug covered in back kitchen	W.C. pedestal	Flagged	Paved	None
98	1 month	3 days	House duties	...	Boat bottle	In jug covered in living room	W.C. pedestal	Flagged	Unpaved	None
99	11 months	7 days	Weaver	Six weeks	Tube bottle	In jug covered in living room	Pail closet	Flagged and cobbled	Paved	None
100	5 months	1 day	Ring spinner	Three weeks	Breast 3 weeks tube bottle after	In jug uncovered in living room	W.C. pedestal	Flagged	Paved	None

No.	Age.	Days ill before death	Work of mother	If returned to work since birth of child	Feeding of child	Means of milk storage and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
101	2 months	8 days	Weaver	No	Breast 6 weeks boat bottle after	In jug covered in back kitchen	W.C. pedestal	Flagged	Paved	None
102	9 months	8 days	Weaver	No	Breast only	In jug covered in back kitchen	Pail closet	Flagged	Flagged	None
103	7 months	14 days	Winder	Eight weeks	Boat bottle	In jug covered in back kitchen	W.C. pedestal	Flagged	Paved	None
104	3 years	7 days	House duties	...	Breast only	In jug covered in back kitchen	Short hopper water closet	Flagged	Paved	None
105	1 month	7 days	Winder	No	Breast only	In jug covered in back kitchen	Pail closet	Flagged and cobble	Paved	None
106	1 month	7 days	Ring spinner	Six weeks	Breast 7 days tube bottle after	In jug covered in back kitchen	Pail closet	Flagged and gardened	Paved	None
107	1 month	3 days	Weaver	Four weeks	Tube bottle	In jug covered in back kitchen	Short hopper water closet	Flagged	Paved	None
108	27 days	21 days	Winder	No	Boat bottle	In jug covered in back kitchen	Privy	Flagged and cobble	Paved	None
109	7 months	7 days	Winder	Four weeks	Tube bottle	On shelf in back kitchen	Short hopper water closet	Flagged	Paved	None

TABLE XXXIV. — Continued.

No.	Age	Days ill before death	Work of mother	If returned to work since birth	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structure in yard
110	7 months	...	Removed	...	...	...	Pedestal	Flagged and cobbled	Paved	None
111	2 months	9 days	House duties	...	Barley water and boat bottle	Kitchen shelf	Pail closet	Flagged and cobbled	Paved	"
112	7 months	21 "	House duties	No	Tube bottle	Boiled and then kept in kitchen	Short hopper	Flagged	Paved	"
113	7 months	1 day	Housekeeper	...	Tube bottle	"	Pedestal	Flagged and cobbled	Paved	"
114	9 months	7 days	Ring spinner	2 months	Spoon fed	Kitchen table	Slopwater	Flagged	Paved	"
115	3 months	2 "	Housekeeper	...	Breast and tube bottle	Cupboard in front place	Pail	Flagged	Flagged passage	"
116	72 years	7 "	...	...	...	Oven in front place	Pail	Flagged and cobbled	Paved	"
117	20 months	6 "	Weaver	No	Long tube	Stored in kitchen	Short hopper	Part flagged	Paved	"
118	11 months	6 "	Ring spinner	6 weeks	"	Kitchen shelf	Pail	cobbled	Paved	"
119	1 month	6 "	Housekeeper	No	Boat bottle	Kitchen shelves	Pail	Flagged and cobbled	Paved	"
120	1 month	3 "	Charwoman	No	Long tube and spoon	Kitchen table	Pail	Flagged	Paved	"

No.	Age	Days ill before death	Work of mother	If returned to work since birth of child	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
121	4 months	14 days	Weaver	No	Tube bottle	Kitchen shelves	Pail	Flagged and cobbled	Paved	None
122	18 days	6 "	Housekeeper	No	Long tube	"	Pedestal washdown	Flagged	Paved	...
123	22 months	7 "	Weaver	2 months	"	Kitchen table	Pail	Flagged	Paved	...
124	10 "	2 "	Weaver	3 "	"	On dresser in parlour	Pedestal washdown	Flagged	Not paved	...
125	11 "	6 "	Housekeeper	No	"	Kitchen shelves	Pail	Flagged and cobbled	Paved	...
126	3 "	10 "	Housekeeper	No	"	"	Pail	Flagged	Paved	...
127	3 "	3 "	Housekeeper	No	"	In scullery	Slopwater	Flagged	Flagged passage	...
128	22 days	10 "	Winder	No	"	Kitchen shelves	Pedestal washdown	Flagged	Paved	...
129	24 "	7 "	Weaver	No	"	"	Pedestal washdown	Flagged	Paved	...
130	6 months	2 "	Housekeeper	No	"	Oven in kitchen	Pail	Flagged	Flagged passage	...

TABLE XXXIV.—Continued.

No.	Age.	Days ill before death	Work of mother	If returned to work since birth	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
131	11 months	2 days	Winder	Two months	Boat bottle	Scullery shelf	Pail	Flagged and cobbled	Paved	...
132	1 month	9 "	Weaver	Six weeks	Long tube	Kitchen shelves	Pail	Flagged and cobbled	Flagged passage	...
133	1 "	14 "	Housekeeper	No	Boat bottle	Kitchen shelf	Pail	Flagged	Paved	...
134	15 months	14 "	Housekeeper	No	Boat bottle	Cupboard	Pail	Flagged	Paved	...
135	11 "	6 "	Weaver	Ten weeks	Boat bottle	Boiled and kept on kitchen shelves	Pail	Flagged and cobbled	Paved	...
136	2 "	2 "	Cardroom hand	No	Long tube	Boiled and kept on kitchen shelves	Pail	Flagged and cobbled	Paved	...
137	7 "	21 "	Weaver	Six weeks	Boat bottle	Scullery shelf	Pail	Flagged and cobbled	Paved	...
138	3 "	28 "	Weaver	Two months	Boat bottle	Oven in kitchen	Pail	Flagged	Paved	...
139	14 days	4 "	Housekeeper	No	Breast fed	Kitchen shelf	Pail	Flagged and cobbled	Paved	...
140	4 months	1 "	Winder	Three months	Boat shape	Kitchen shelves	Short hopper	Flagged	Paved	...

No.	Age.	Days ill before death	Work of mother	If returned to work since birth	Feeding of child	Means of milk storage and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
141	5 months	26 days	Winder	No	Boat shape and long tube	Milk jug on kitchen shelves	Short hopper	Flagged and cobbled	paved	...
142	3 "	12 "	Weaver	One month after birth	Boat bottle	Nestle's milk kept on table in living place	Pedestal washdown	Flagged	cobbled	...
143	4 "	3 "	Housekeeper	...	Boat bottle	Cupboard in parlour	Short hopper	Flagged	paved	...
144	11 "	2 "	Weaver	Two months after birth	Breast and spoon	Top of oven in kitchen	Pedestal washdown	Cobbled and Flagged	paved	...
145	3 "	7 "	Charwoman	One month after birth	Long tube	On kitchen shelf	Pail	Part flagged	paved	..
146	1 "	10 "	Housekeeper	...	Boat bottle	On table in living kitchen	slopwater	Tiled (good)	paved	...
147	2 "	7 "	Weaver	No	Long tube	Kept on table in living kitchen	Pail	Flagged and cobbled	paved	...
148	3 "	2 "	Housekeeper	...	Breast fed	On oven top in kitchen	Pail	Flagged and cobbled	paved	...
149	14 days	From birth	Housekeeper	...	Boat bottle	On kitchen shelf	Pail	Flagged and cobbled	paved	...
150	2 months	2 days	Housekeeper	...	Boat bottle	On kitchen table	Pedestal washdown	Flagged and cobbled	paved	..

TABLE XXXIV.—Continued.

No.	Age.	Days ill before death	Work of mother	If returned to work since birth	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
151	2 months	2 days	Housekeeper	...	Boat bottle	On kitchen table	Pedestal washdown	Flagged and cobbled	Paved	...
152	8 "	14 "	Housekeeper	...	Boat bottle	On chest of drawers in front living place	Pail	Part flagged	Flagged passage	...
153	8 "	7 "	Winder	Three months after birth	Long tube	On kitchen shelves	Pedestal washdown	Flagged	Paved	...
154	16 days	4 "	Weaver	No	Breast fed	In milk jug on kitchen shelf	Short hopper	Cobbled	Paved	..
155	12 months	9 "	Weaver	Two months after birth of child	Long tube	On kitchen table	Pail	Flagged	Paved	...
156	5 "	21 "	Housekeeper	...	Boat bottle & long tube bottle	On kitchen shelf	Pedestal washdown	Part flagged	Paved	...
157	3 "	2 "	Housekeeper	...	Breast fed	In cupboard in front living place	Pail	Part flagged	Paved	...
158	62 years	10 "	...	...	...	On pantry shelf	Pedestal washdown	Flagged and cobbled	Paved	...
159	10 months	21 "	Weaver	Two months after birth	Boat bottle	Boiled and kept on kitchen shelf	Pail	Flagged	Paved	...

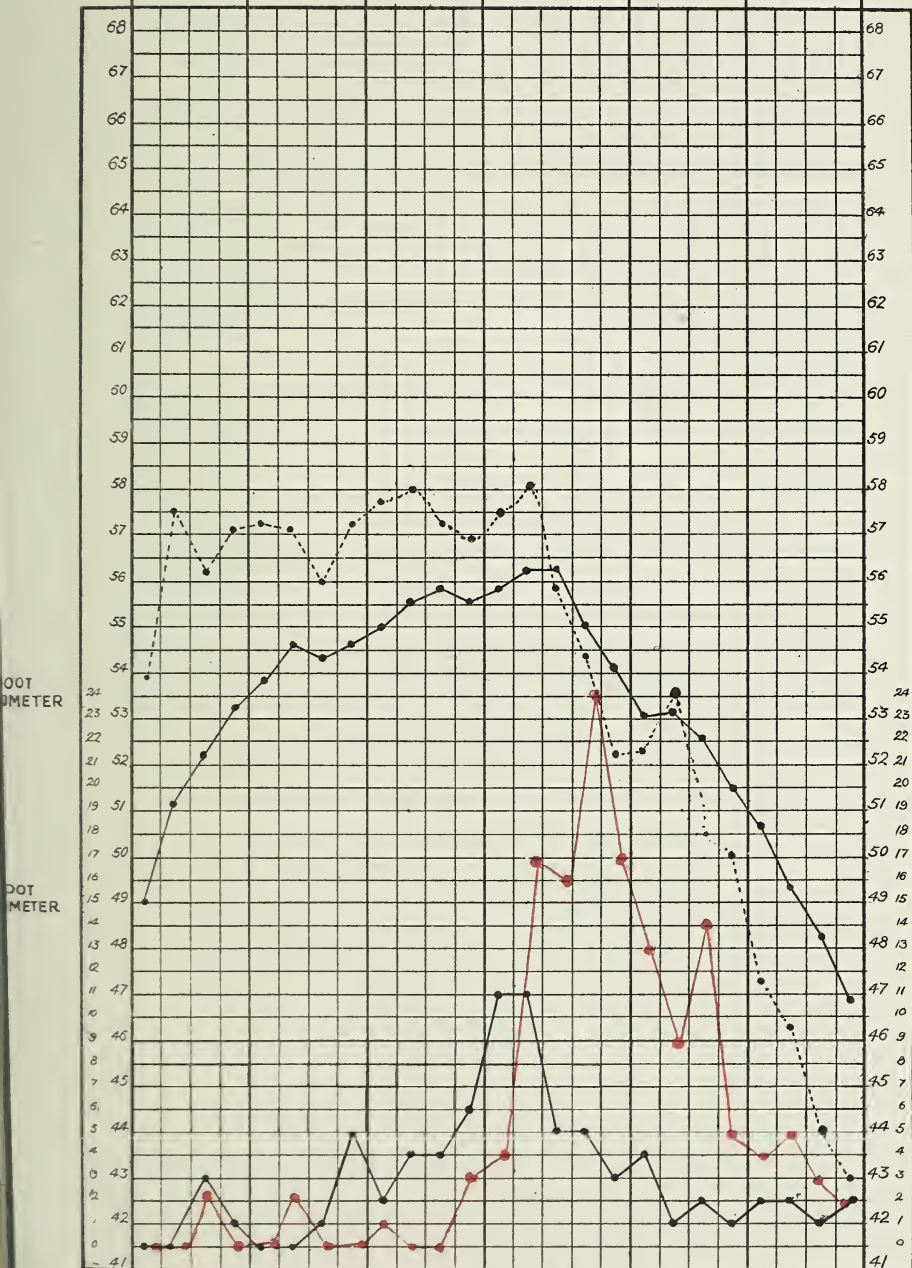
No.	Age	Days ill before death	Work of mother	If returned to work since birth	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
160	5 months	14 days	Weaver	5 weeks after birth	Boat bottle	Boiled and kept on kitchen shelf	Short hopper	Flagged and cobbled	Flagged passage	...
161	2 "	9 "	Weaver	No	Boat bottle	Kitchen shelf	Privy	No back yard	Not paved	...
162	1 "	7 "	Weaver	No	Boat bottle	Kept in jug on Scullery shelf	Short hopper	Flagged	Paved	...
163	17 "	8 "	Housekeeper	No	Fed with spoon	Scullery shelf	Pedestal water closet	Flagged	Paved	...
164	3 "	7 "	Cardroom hand	2 months after birth	Breast and spoon	Kitchen shelf	Pedestal water closet	Flagged	Paved	...
165	2 "	14 "	Cardroom hand	...	Boat bottle	Kitchen shelf	Pail	Flagged and cobbled	None	...
166	1 "	7 "	Housekeeper	...	Boat bottle	Kitchen shelf	Pedestal water closet	Flagged	Paved	...
167	5 "	9 "	Housekeeper	...	Breast and boat	Kitchen shelf	Pail	Flagged	Paved	...
168	3 "	6 "	Housekeeper	...	Boat bottle	stored in cool place	Pedestal water closet	Flagged	Paved	...

TABLE XXIV.—Continued.

No.	Age.	Days ill before death	Work of mother	If returned to work since birth	Feeding of child	Means of storage of milk and food	Sanitary accommodation	Condition of yard	Condition of back passage	Structures in yard
169	7 months	10 days	Weaver	5 months after birth	Long tube bottle	Kitchen table	Pail	Flagged	Paved	...
170	3 "	7 "	Cardroom hand	..	Long tube bottle	Kitchen table	Pail	Flagged	Paved	...
171	5 "	7 "	Housekeeper	...	Breast and boat shaped bottle	Kitchen shelf	Pail	Flagged and cobbled	Paved	...

Chart 4.—Diarrhoea.

JUNE				JULY.				AUG.				SEP.				OCT.			NOV.					
9	16	23	30	7	14	21	28	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	24



RED LINE DEATHS 1906.
BLACK LINE .. 1905.



SMALLPOX.

Fortunately the Borough has been free from Smallpox during the year. The last cases in Blackburn occurred in June, 1905.

I regret to record that the proportion of the population of Blackburn which will be susceptible when another outbreak of the disease occurs is increasing. For example, 120 exemptions from vaccination were obtained in the year 1904, 190 in 1905, and 305 in 1906. Also re-vaccination does not appear to be carried out in Blackburn to any great extent except when there is an epidemic of Smallpox.

SMALLPOX.

TABLE XXXV.

Year.	Cases Notified.	Deaths.	Mortality per 1,000 Population.
1880	0	0	'00
1881	28	5	'04
1882	4	0	'00
1883	4	0	'00
1884	0	0	'00
1885	4	0	'00
1886	28	2	'01
1887	42	4	'03
1888	98	10	'08
1889	0	0	'00
1890	0	0	'00
1891	0	0	'00
1892	4	2	'01
1893	79	8	'06
1894	13	0	'00
1895	0	0	'00
1896	0	0	'00
1897	0	0	'00
1898	0	0	'00
1899	0	0	'00
1900	13	2	'01
1901	0	0	'00
1902	49	2	'01
1903	92	3	'02
1904	2	0	'00
1905	4	0	'00
1906	0	0	'00

VACCINATION.—For 1890—1906.

TABLE XXXVI.

Year	Births.	Successfully Vaccinated	Died Unvaccinated	Insusceptible	Postponed	Exempted	Removed out of District and traced.	Removed and not traced.
1890	4015	3220	404	6	91	...	...	187
1891	4085	2852	522	7	131	...	...	412
1892	3883	2869	492	13	50	...	...	297
1893	3822	2674	560	23	94	...	...	471
1894	3621	2589	340	21	96	...	..	505
1895	3899	2612	543	20	115	...	...	609
1896	3552	2587	495	59	113	...	...	288
1897	3629	2301	451	17	137	...	...	723
1898	3662	2459	655	3	153	164	...	228
1899	3643	2616	519	9	191	139	51	118
1900	3438	2687	416	8	52	120	56	47
1901	3386	2640	408	18	76	158	19	40
1902	3357	2635	329	13	68	128	20	56
1903	3304	2330	304	20	53	117	24	28
1904	3100	2181	353	12	63	120	13	50
1905	3193	2274	290	17	39	190	7	29
1906	3418	2264	337	9	61	305	7	60

It should be noted that children born at the end of 1906 need not be vaccinated until June, 1907, owing to the exemption for the first six months of life.

VACCINATION RETURNS FOR THE YEAR 1906.

TABLE XXXVII.

MONTH.	Successfully Vaccinated.	Died Unvaccinated.	Postponements.	Removals not traced.	Exemptions.	Insusceptible.	Removed and traced out of district.	Unaccounted for not Vaccinated.	Successfully Vaccinated each Quarter.
January ..	242	29	6	6	15	...	3	1	649
February	204	35	3	9	13	1	2	...	
March.....	203	27	10	4	23	...	...	1
April	198	31	5	3	25	2	...	1	626
May.....	206	29	6	7	34	2	2	...	
June	222	33	14	5	26	1	...	6	
July	232	28	6	8	31	6	599
August ..	212	32	6	11	42	3	...	9	
September	155	37	5	4	31	...	...	10
October ...	181	28	...	2	27	56	390
November	157	15	...	1	28	...	...	83
December	52	13	...	...	10	...	...	201
Totals ...	2264	337	61	60	305	9	7	374	2264

PUERPERAL FEVER.

There were 12 notifications of Puerperal Fever, including 5 deaths, during 1906, compared with 24 notifications, including 10 deaths, during 1905.

Midwives who have been in attendance upon cases of Puerperal Fever have been interviewed specially, and the necessary steps have been taken regarding disinfection, burning of dangerous articles, instructions as to rigorous cleanliness, etc.

In accordance with the Midwives' Act of 1902, the midwives have sent to me 14 "notifications of the birth of still-born children" and 27 "records of sending for medical help."

As the Health Committee is the local supervising authority for the administration of the Midwives' Act, I have set out the directions to midwives which have been issued by the Central Midwives' Board.

REGULATING, SUPERVISING, AND RESTRICTING
WITHIN DUE LIMITS THE PRACTICE OF
MIDWIVES.

DIRECTIONS TO MIDWIVES.

1. The midwife must be scrupulously clean in every way, because the smallest particle of decomposing matter may set up puerperal fever.

She must wear a dress of washable material, and over it a clean washable apron.

NOTE.—It is best to have the sleeves of the dress made so that the midwife can tuck them well up above the elbows.

A midwife who is attending a case in which there are foul-smelling discharges must not go direct to another case without first changing her dress and thoroughly cleansing and disinfecting her hands and forearms and such appliances (2 (a) below) as she may have had occasion to use, and is obliged to take with her.

NOTE.—Unless the cleansing process be thoroughly carried out there will be, even after a healthy confinement, remains of blood, lochia, or liquor amnii on the fingers, and especially under the nails, which will there undergo decomposition, and so become dangerous to the next patient attended. The midwife must, therefore, keep her nails cut short, and preserve the skin of her hands as far as possible from chaps and other injuries.

2. When called to a confinement a midwife must take with her :—

(a) An appliance for giving vaginal injections, an appliance for giving enemata, a catheter, a pair of scissors, a clinical thermometer, and a nail-brush.

(b) An efficient antiseptic for disinfecting the hands, etc.

(c) An antiseptic for douching in special cases.

(d) An antiseptic lubricant for smearing the fingers, catheters, douche nozzles, and enema nozzles before they touch the patient.

3. On each occasion of touching the genital organs or their neighbourhood the midwife must previously disinfect her hands and forearms.

4. All instruments and other appliances brought into contact with the patient's generative organs must be properly disinfected.

5. Whenever a midwife has been in attendance upon a patient suffering from puerperal fever, or from any other illness supposed to be infectious, she must disinfect herself and all her instruments and other appliances, to the satisfaction of the local sanitary authority, and must have her clothing thoroughly disinfected before going to another labour. Unless otherwise directed by the local supervising authority, all washable clothing should be boiled, and other clothing should be sent to be stoved (by the local sanitary authority), and then exposed freely to the open air for several days.

DUTIES TO PATIENT.

6. If a midwife has charge of a lying-in case she must not leave the patient after the commencement of the Second Stage, and she must stay with the woman until the expulsion of the afterbirth, and as long after as may be necessary. In cases where a doctor has been sent for on account of the labour being abnormal or of there being threatened danger, she must await his arrival and faithfully carry out his instructions. (See Clauses 12 and 17 below.)

7. Before making the first internal examination, and always before passing a catheter, the midwife must wash the patient's external parts with soap and water, and then swab them with an antiseptic solution. For this purpose, and for washing the external parts immediately after labour and during the lying-in, on no account must ordinary sponges or flannels be used, but materials which can be boiled before use and thrown away afterwards, such as linen, cotton wool, cotton waste, tow, etc.

8. No more internal examinations should be made than are absolutely necessary.

9. On the birth of a child which is in danger of death, the midwife shall inform one of the parents of the child's condition.

10. The midwife must remove soiled linen, blood, fæces, urine, and the placenta from the neighbourhood of the patient and from the lying-in room as soon as possible after the labour, and in every case before she leaves the patient's house.

11. The midwife shall be responsible for the cleanliness, and should give full directions for securing the comfort and proper dieting, of the mother and child during the lying-in period, which shall be held, for the purpose of these regulations and in a normal case, to mean the time occupied by the labour and a period of ten days thereafter. (See Clause 17 (c).)

12. A "case of normal labour" in these regulations shall mean a labour in which there are none of the conditions specified in Clause 17 below.

DUTIES TO CHILD.

13. In the case of a child being born apparently dead the midwife should carry out the methods of resuscitation which have been taught her.

14. As soon as the child's head is born, and if possible before the eyes are opened, its eyelids should be carefully cleansed with a suitable antiseptic lotion.

GENERAL

15. No midwife shall undertake the duty of laying out the dead, or follow any occupation that is in its nature liable to be a source of infection.

16. A midwife must enter in a book, with other notes of the case, all occasions on which she is under the necessity of administering any drug, whether scheduled as a poison or not, the dose, and the time and cause of its administration.

17. In all cases of abortion, of illness of the patient or child, or of any abnormality occurring during pregnancy, labour, or lying-in, a midwife must decline to attend alone, and must advise that a registered medical practitioner be sent for, as, for example, under the following circumstances:—

(a) In the case of a pregnant woman:—

(1) When she suspects a deformed pelvis;

(2) When there is loss of blood;

(3) When the pregnancy presents any other unusual feature (as, for example, excessive sickness, persistent headache, dimness of vision, puffiness of face and hands, difficulty in emptying the bladder, incontinence of urine, large varicose veins, rupture), or when it is complicated by fever or any other serious condition.

(b) In the case of a woman in labour:—

(1) In all presentations other than the uncomplicated vertex or breech; in all cases of breech presentation in primiparæ; in all cases of flooding and convulsions; and also whenever there appears to be insufficient room for the child to pass, or when a tumour is felt in any part of the mother's passages.

(2) If the midwife when the cervix has become dilated is unable to make out the presentation.

(3) If there is loss of blood in excess of what is natural, at whatever time of the labour it may occur.

(4) If an hour after the birth of the child the placenta has not been expelled, and cannot be expressed (*i.e.* pressed out), even if no bleeding has occurred.

(5) In cases of rupture of the perinæum, or other serious injury of the soft parts.

(c) In the case of lying-in women, and in the case of newly-born children :—

Whenever, after delivery, the progress of the woman or child is not satisfactory, but in all events upon the occurrence of the subjoined conditions in—

(I.) *The Mother :*

- (1) Abdominal swelling and signs of insufficient contraction of the uterus.
- (2) Foul-smelling discharges.
- (3) Secondary post-partum hæmorrhage.
- (4) Rigor.
- (5) Rise of temperature above $100^{\circ} .4' F.$ with quickening of the pulse for more than 24 hours.
- (6) Unusual swelling of the breasts with local tenderness or pain.

(II.) *The Child :*

- (1) Injuries received during birth.
- (2) Obvious malformations or deformities, not inconsistent with continued existence.
- (3) Concealed malformations—Incapacity to suck or take nourishment.

- (4) Inflammation to even the slightest degree of the eyes, eyelids and ears.
- (5) Syphilitic appearance of the skin in certain parts.
- (6) Illness or feebleness arising from prematurity.
- (7) Malignant jaundice (icterus neonatorum).
- (8) Inflammation about the umbilicus (septic infection of the cord).

(d) In all cases of the death of a woman during pregnancy, labour or lying-in.

When a registered medical practitioner is sent for, the midwife must state in writing the condition of the patient and the reason of the necessity for medical advice, in accordance with Clause 19 (b).

18. NOTIFICATION.

(1) *Deaths*.—In all cases in which the death of the mother or of the child occurs before the attendance of a registered medical practitioner the midwife shall, as soon as possible after the death, notify the same to the local supervising authority.

(2) *Stillbirths*.—In all cases where a registered medical practitioner is not in attendance the midwife shall, as soon as possible after the occurrence of a stillbirth, notify the same to the local supervising authority.

A child is deemed stillborn when it has not breathed or shown any sign of life after being completely born.

(3) *Puerperal Fever and other Infectious diseases.*—

These cases are included in the notice required when medical help is sent for. (See 19 (b) below.)

19. A midwife shall keep the following records:—

(a) A register of cases, in the following form:—

No.

Date of engagement to attend

Name and address

.....

No. of previous labours and miscarriages

Age

Date and hour of Midwife's arrival

Presentation

Duration of 1st, 2nd, 3rd stage of labour

Complications (if any) during or after labour

.....

Sex of infant.....Born living or dead.....

Full time or premature—No. of months

If Doctor calledName of Doctor

Date of Midwife's last visit

Condition of Mother then. (See clause 11, above.)

.....

Condition of Child then

Remarks*

.....

.....

.....

*If any drugs have been administered state here their nature and dose, and the time and the purpose of their administration.

(b) A record of sending for medical help, in the following form:—

No.Date
 Name of Patient
 Address
 requires medical assistance at once on account of

 Signed(Certified Midwife).

Sent to (doctor)
 at (address)
 Time of sending message

The midwife shall make two copies of the above (b) by means of transfer paper or otherwise; she shall preserve one of these copies for herself, and shall send the other by post to the local supervising authority within twelve hours. (See Clause 18 (3), above.)

The Midwife is also recommended to keep a Case Book with fuller details.

20. The supervising authority shall make arrangements to secure a proper inspection of every midwife's case book, bag of appliances, &c., and, when thought necessary, an inspection of her place of residence, and an investigation of her mode of practice.

21. Nothing in this section (E) shall apply to certified Midwives exercising their calling in Hospitals, Workhouses, or Poor Law Infirmaries under the supervision of a duly appointed medical officer.

There are at present 67 midwives on the register, other than those engaged in hospitals and nursing homes. Fifty-nine of these are on by virtue of having been in bonâ-fide practice as midwives for 12 months prior to July 31st. 1902. The remaining eight hold one or other of the diplomas recognised by the Central Midwives' Board.

During the past year visits have been paid to the homes of all those on the register; 29 of these were personally interviewed, 18 could not be found, and the remainder were in the majority of instances out at work. Of the 18 midwives who could not be found, two were dead, three had left the borough, and the remaining 13 had removed and could not be traced.

Of the 29 who were seen personally, three were certificated, whilst 26 came under the old regulations.

Three only out of the 29—and those the certificated three—can be said to be satisfactory.

Of the 26 unsatisfactory ones, a few were unable to write, and could read only with difficulty; 16 had few or no appliances, eight had no case books, whilst in 16 cases in which the case books were kept they were incomplete. Thus out of a total of 24 uncertificated midwives two only had kept their case books satisfactorily.

The faults in keeping the case books were mainly due to ignorance of what was required of them on the one hand, and their inability to write on the other. In the latter case, I found several instances of a son or a daughter keeping his or her mother's case book. This is much to be deprecated, but under the circumstances there is no alternative.

I found that in the majority of cases the "Duration of the stages of labour" column was entirely neglected, and this I attribute to their not knowing what the stages of labour are.

In numerous other cases, again, a statement as to the "number of previous confinements or miscarriages" had been omitted. In no cases could I say that the neglect was wilful, but simply due to ignorance.

"Dresses of washable material" were but seldom worn.

As I have stated elsewhere, I look to the midwife of the future as an important factor in reducing the infantile mortality, but many improvements will be required first.

The following is a list of midwives residing in Blackburn, and corrected to date:—

TABLE XXXVIII.

No.	Name.	Address.	Date of Enrolment.	Qualification.
5840	Almond, Hannah	Union Infirmary	1904—Nov. 24	L.O.S., May 27, 1904
3335	Alston, Mary Jane	4 Broom Street, Blackburn	" March 24	In Practice July, 1901
3817	Anderson, Rose.....	Nurses' Home, West Park Road	" April 24	Glasgow Maternity Hospital, Jan. 14, 1904
5824	Andrews, Mary.....	45 Coddington Street	" June 30	In Practice July, 1901
5625	Ashcroft, Frances	24 Burnley Road	" June 30	Ditto
8037	Atherton, Esther Ann	4 Intack Crescent.....	" Sept. 29	Ditto
5626	Backhouse, Ruth	11 Queen's Road	" June 30	Ditto
21281	Barton, Elizabeth	39 Wellington Street	1905—April 27	L.O.S., July 11, 1899
5627	Baylie, Margaret	31 Shorrocks Lane	1904—June 30	In Practice July, 1901
5788	Beard, Mary	34 Camden Street	" June 30	Ditto
3810	Bradley, Sarah Jane	44 Saunder's Road	" April 28	L.O.S., November 26, 1903
21335	Bridge, Sarah	Infirmary	1905—April 27	L.O.S., February 23, 1905
21403	Clayton, Lydia	185 Harwood Street.....	" April 27	L.O.S., February 24, 1905
6235	Collins, Rose Ann	26 Lord Derby Street	1904—July 21	In Practice July, 1901

TABLE XXXVIII.—continued.

No.	Name.	Address.	Date of Enrolment.	Qualification.
5628	Conway, Mary Ann	8 Commercial Street	1904—June 30	In Practice July, 1901
10257	Corrigan, Mary Ann	11 Henrietta Street	" Nov. 24	Ditto
5629	Croatsdale, Elizabeth Alice	74 Leamington Road	" June 30	Ditto
7508	Cumming, Agnes	2 Spring View	" Sept. 29	Ditto
8976	Donnelly, Mary	Woodfield	" Oct. 27	Ditto
18468	Doran, Annie	43 Daisy Street	1905—April 27	Ditto
10981	Dunwoody, Elizabeth	Union Infirmary	1904—Dec. 22	Ditto
6953	Elsworth, Mary Ann	81 Nab Lane	" Sept. 29	Ditto
6954	Foxcroft, Alice	123 Revidge Road	" Sept. 29	Ditto
6523	Gabbuit, Mary	100 Leamington Road	" July 21	Ditto
6524	Galloway, Selina Ann	72 Duke's Brow	" July 21	Ditto
5826	Gee, Margaret	79 Pendle Street	" June 30	Ditto
3690	Gleeson, Annie	39 Great Bolton Street	" April 28	L.O.S., July 10, 1900
11058	Gordon, Ellen	10 Taylor Street	" Dec. 22	In Practice July, 1901
6525	Green, Margaret	102 London Road	" July 21	Ditto

TABLE XXXVIII.—continued.

No.	Name.	Address.	Date of Enrollment.	Qualification.
10293	Hacking, Annie	14 Brothers Street	1904—Nov. 24	In Practice July, 1901
5623	Haden, Elizabeth	100 Preston New Road	" June 30	Ditto
6070	Hargreaves, Mary	6 Plymouth Street ..	" June 30	Ditto
6604	Haworth, Mary.....	71 Haslingden Road	" July 21	Ditto
5827	Hoghton, Martha Jane	41 Charlotte Street	" June 30	Ditto
6605	Hopwood, Susannah ..	73 Galligreaves Street.....	" July 21	Ditto
7760	Houghton, Mary	67 Baines Street	" Sept. 29	Ditto
5828	Howson, Ellen	27 Roebuck Street	" June 30	Ditto
6526	Hummer, Elizabeth	89 Balaclava Street	" July 21	Ditto
21678	Isherwood, Ellen ..	Union Infirmary	1905 - April 27	L.O.S., Feb. 23, 1905
7360	Johnson, Edith Mary	24 Bicknell Street.....	1904—Sept. 29	Glasgow Maternity Hospital, Aug. 1, 1904
9935	Johnston, Nancy	Union Infirmary	" Nov. 24	L.O.S., May 27, 1904
5829	Latham, Elizabeth	40 Pickup Street	" June 30	In Practice July, 1901

TABLE XXXVIII. continued.

No.	Name.	Address.	Date of Enrollment.	Qualification.
5630	Leigh, Elizabeth	91 London Road	1904—June 30	In Practice July, 1901
3819	Lightbown, Margaret	94 Livesey Branch Road ...	„ April 28	St. Mary's Hospital, Manchester, March, 1899
16041	Lonsdale, Hannah ..	18 Mayfield Terrace ..	1905—Mar. 23	In Practice July, 1901
16411	McCall, Elizabeth Alice.....	122 London Road	„ Mar. 23	Ditto
6527	Moore, Alice	84 Derby Street.....	„ July 21	Ditto
5034	Morris, Elizabeth	528 Bolton Road	„ June 30	Ditto
5650	Newton, Mary	80 Whalley New Road	„ June 30	L.O.S., February 26, 1904
6609	Nixon, Mary Alice ..	37 Goldhey Street	„ July 21	In Practice July, 1901
1295	Noble, Laura Agnes.....	District Nurses' Home	„ Jan. 28	L.O.S., July 11, 1898
8593	Ormerod, Nancy	10 Hickory Street	„ Oct. 27	In Practice July, 1901
7210	Parker, Catherine Ann	Salisbury Hotel, Peter Street...	„ Sept. 29	Ditto
6237	Parkinson, Mary Ann	5 Abbott Street	„ July 21	Ditto
7209	Peacock, Sarah Elizabeth	15 Progress Street	„ Sept. 29	Ditto

TABLE XXXVIII.—continued.

No.	Name.	Address.	Date of Enrollment.	Qualification.
6072	Pearson, Caroline.....	111 Bonsall Street.....	1904—June 30	In Practice, July, 1901
6073	Pomfret, Jane	58 Hollin Bridge Street	" June 30	Ditto
5830	Riding, Rebecca	63 St. Thomas Street	1904—June 30	In Practice July, 1901
5935	Rimmer, Ellen	76 Harwood Street	" June 30	Ditto
6830	Scott, Helen	46 Northgate	" Sept. 29	Ditto
5936	Sharp, Helen	5 Lodge Street	" June 30	Ditto
6228	Sherwin, Harriet	18 Johnston Street	" July 21	Ditto
5938	Speight, Betsy Jane	16 Lord Byron Street	" June 30	Ditto
6074	Twist, Mary	116 Preston New Road	" June 30	Ditto
8320	Walmsley, Susannah	2a Cob Street	" Oct. 27	Ditto
6076	Whalley, Jane Ellen	2 Bedford Street	" June 30	Ditto
6238	Whittaker, Hannah	33 Clinton Street	" July 21	Ditto

TABLE XXXVIII.—c continued.

No.	Name.	Address.	Date of Enrolment.	Qualification.
6239	Wilson, Annie	40 Inkerman Street	1904—July 21	In Practice July, 1901.
5631	Wrigley, Mary	6 East Street	, June 30	Ditto
5939	Yates, Mary Alice	68 Newton Street	, June 30	Ditto
13850	Foster, Sarah	8 Hawkshead Street	1905—Feb. 23	Ditto

Table XXXIX. - DEATHS IN CHILDREN, DURING THE LAST TEN YEARS.

	1897	1898	1899	1900	1901	1902	1903	1904	1905	1906
Puerperal Fever	7	2	8	10	9	11	5	3	10	5
Placenta Prævia—Flooding.	...	1	2	1	4	4	2	4	3	4
Parturition	2	...	7	1	...	...	...	...	...	...
Puerperal Convulsions ..	...	...	...	1	5	4	4	...	2	3
Abortion—Miscarriage ..	1	...	1	...	1	3	2	2	2	1
Other Accidents of Child- birth	8	10	2	1	2	2	12	6	11	2
Puerperal Mania.....	...	...	...	...	...	1	...	1	...	...
Puerperal Thrombosis .....	...	...	...	...	...	2	...	...	2	3
	11	11	12	4	12	16	20	13	20	13
Number of Puerperal cases notified	8	7	13	14	11	18	11	7	24	12

ERYSIPELAS.

During 1906, 112 Cases of Erysipelas were notified and 9 Deaths registered, giving a case mortality of 8.0 per cent. During 1905, 132 Cases were notified and 2 Deaths registered.

WHOOPIING COUGH.

There were 17 Deaths from Whooping Cough, compared with 11 Deaths in 1905, and 96 Deaths in 1904. They occurred in the age-periods in the following numbers:—

0-1	1-5	5-10	10 & upwards.
9	7	1	0

INFLUENZA, BRONCHITIS, AND PNEUMONIA.

The number of Deaths from Bronchitis and Pneumonia was 358, compared with 404 in 1905, and 489 in 1904; and the Deaths from Influenza were 22, compared with 20 in 1905, and 17 in 1904.

Deaths from Bronchitis and Pneumonia in months:—

Jan.	Feb.	March	April	May	June
35	43	43	33	32	21
July	Aug.	Sept.	Oct.	Nov.	Dec.
23	18	16	30	36	28

During the latter part of 1906 there was a severe epidemic of Influenza in Blackburn, which caused a greater amount of sickness than has been caused by this disease since the great epidemic of 1890.

ALCOHOLISM.

During 1906, six Deaths were directly caused by Alcoholism and Delirium Tremens. Of these 5 were males and 1 was a female.

During 1906, 22 Deaths were caused by Cirrhosis of the Liver, which is a disease frequently associated with Alcoholism. This is a marked increase in mortality from this cause as compared with the year 1905.

The following is an analysis of the Deaths from Alcoholism and Cirrhosis of the Liver, according to sex, and Age-periods:—

Age.	Males.	Females.	Total.
15-25	0	0	0
25-35	1	0	1
35-45	3	2	5
45-55	5	3	8
55-60	6	0	6
60-65	3	0	3
65-75	4	1	5
75 & upwards	0	0	0
	22	6	28

During the year, by order of the Health Committee, posters were fixed and handbills were distributed on Physical Deterioration and Alcoholism

The following is a copy of the same:—

CORPORATION OF BLACKBURN.

PHYSICAL DETERIORATION AND ALCOHOLISM.

The Report of the Committee appointed by the Government to consider the above subject, has, by command of His Majesty, presented to Parliament the following statements:—

The abuse of Alcoholic Stimulants is a most potent and deadly agent of physical deterioration.

Alcoholic persons are especially liable to consumption and all inflammatory disorders.

In abstinence is to be sought the source of muscular vigour and activity.

The Lunacy Returns show that as a result of excessive drinking, there is a large and increasing number of persons of both sexes admitted to the Asylums.

The following facts are recognised by the Medical Profession, and are now published in order to carry out the recommendations of the Committee, and to bring home to men and women the fatal effects of Alcoholism on physical efficiency :—

- (1) Alcoholism is a chronic poisoning, resulting from the habitual and excessive use of Alcohol (whether as Spirits, Wine or Beer), although this may not go so far as drunkenness.
- (2) The abuse of Alcohol not only weakens a man's physical condition, and saps his strength, but also acts upon his nervous system, weakening his self-control, exciting his passions, and so leading to crimes, of which numbers are committed under its direct influence.
- (3) It is a fruitful cause of accidents, in which not unfrequently, through the fault of an individual, the lives of many persons are endangered or destroyed.
- (4) It is not only the direct cause of many fatal diseases, but it also aggravates, and adds to the danger of all acute illnesses, especially those of an infectious nature, which latter are well known to be especially fatal in alcoholic subjects.
- (5) The children born of drunken parents are frequently feeble from birth, and inherit a direct tendency to many forms of physical and mental disease.

- (6) Too frequently the home of the confirmed drunkard may be recognised by its dirt and squalor, his family are neglected, his children are ill-fed and untaught, whilst his own life, drifting from bad to worse, not seldom ends in a premature grave.
- (7) In short, Alcoholism is a most terrible enemy to personal health, to family happiness, and to national prosperity.

The Health Committee also desire to warn consumers of Tea, against the dangers incurred in the excessive use of strong brewed teas. To reduce these dangers to a minimum, the tea should in all cases be freshly made (about two minutes) and not strong.

Smoking of Cigarettes by youths and the inhalation of tobacco smoke at any age are also potent causes of physical deterioration.

ALFRED GREENWOOD, M.D.,

Medical Officer of Health.

By Order of the Health Committee,
July 16th, 1906.

CANCER.

There were 108 Deaths from Cancer during the year, compared with 113 in 1905, and with 107 Deaths in 1904.

The number of Deaths from Cancer has been greater during the last three years than in previous years. The parts of the body most affected by Cancer, and which caused death during 1906, were the Uterus, Stomach, Intestines, Breast, and Liver. The actual cause of Cancer is still obscure. I hope to be able to investigate all Deaths from Cancer more fully during 1907 than has been done previously.

An analysis of the Deaths as to the kind of Cancer shows that :—

94	were returned simply as Cancer or Malignant Disease.
8	„ „ „ Sarcoma.
5	„ „ „ Epithelioma.
1	was „ „ Scirrhus.

On examining the Death returns for 1906 it was found that Cancer affected the following parts of the body :—

Uterus, 18.
Stomach, 17.
Intestines, 14.
Breast, 11.
Liver, 10.
Rectum, 5.
Lip, 2.
Tongue, 2.
Œsophagus, 3.
Larynx, 3.
Spine, 2.
Scrotum, 2.
Jaw, 2.
Ovary, 2.
Penis, 1.
Bladder, 1.
Face, 1.
Pancreas, 1.
Nose, 1.
Chest, 1.
Neck, 1.
Scalp, 1.
Vulva, 1.
Tonsils, 1.
Mediastinal Glands, 1.
Brain, 1.
Femur, 1.
Place not stated, 2.

TABLE XL.

DEATHS FROM CANCER—1889-1906.

Year.	Male.	Female.	Total.
1889	20	32	52
1890	14	24	38
1891	19	34	53
1892	14	38	52
1893	23	37	60
1894	23	34	57
1895	33	48	81
1896	25	56	81
1897	28	44	72
1898	36	58	94
1899	28	52	80
1900	33	65	98
1901	27	64	91
1902	40	51	91
1903	35	57	92
1904	33	74	107
1905	46	67	113
1906	36	72	108

TUBERCULOSIS.

There were 202 Deaths from Tuberculosis during 1906, compared with 226 during 1905.

Of these 202 Deaths, 124 were due to Phthisis or Tuberculosis of the Lungs.

During 1906 the death-rate from Tuberculosis was 1.51 per 1,000, and from Phthisis it was 0.92 per 1,000.

PHTHISIS.

During the year 1906, 137 notifications of Phthisis were received from medical men, 75 of which were males and 62 females.

This is considerably less than last year, when 173 notifications were received.

Of these 137 notifications, 32 were notified from the Infirmary, or 23.3 per cent., and 53 were private.

The following table shows the number of notifications and deaths during 1906, arranged in months:—

DEATHS.

Jan.	Feb.	March	April	May	June
11	4	15	12	11	7
July	Aug.	Sept.	Oct.	Nov.	Dec.
14	8	13	11	9	9
—Total 124.					

NOTIFICATIONS.

Jan.	Feb.	March	April	May	June
17	17	10	15	22	15
July	Aug.	Sept.	Oct.	Nov.	Dec.
9	3	6	8	7	8
—Total 137.					

DEATHS FROM PHTHISIS.

80 Deaths have been investigated by Dr. Miller, as compared with 105 during the previous year, and the analysis of these inquiries is set out in the following notes. Of the Deaths, 39 were males and 41 females.

Of the 80 Deaths 1 was under 1 year of age.
 „ 10 were from 1 to 15 years of age.
 „ 22 „ 15 to 25 „
 „ 28 „ 25 to 45 „
 „ 19 „ 45 years and upwards.

Of the 80 Deaths which were investigated, the length of disease was as follows:—

In 9 cases the illness had lasted from 1 to 3 months.
 „ 22 „ „ „ 3 to 6 „
 „ 23 „ „ „ 6 to 12 „
 „ 8 „ „ „ 1 to 2 years.
 „ 5 „ „ „ 2 to 3 „
 „ 5 „ „ „ 3 to 5 „
 „ 7 „ „ „ 5 to 10 „
 „ 1 „ „ „ 10 years.

It is interesting to note the length of time during which each person continued to work after being infected.

Under 1 month 1 had continued working.
 From 1 to 3 months 10 had continued working.
 „ 3 to 6 „ 7 „ „
 „ 6 to 12 „ 2 „ „
 „ 1 to 2 years 8 „ „
 „ 2 to 3 „ 4 „ „
 „ 3 to 4 „ 4 „ „
 „ 4 to 5 „ 2 „ „
 „ 5 to 6 „ 2 „ „
 „ 7 to 8 „ 1 „ „

For 9 years one had continued working.

(This list includes Notifications and Deaths).

Two persons were still working when the inquiry was made, viz. :—A street scavenger, aged 59 years, and a winder, aged 25 years.

Five children had attended school after being affected with Phthisis, viz. :—

A male	5	years	attended	school	for	1	month.
A female	8	„	„	„	„	3	months.
„	9	„	„	„	„	6	„
„	9	„	„	„	„	12	„
A male	9	„	„	„	„	off and on for	3 years.

SOURCE OF INFECTION.

Upon inquiries being made into the notified Cases and Deaths during 1906, the source of infection was found in 4 cases. A sister appears to have been the infecting case in one case, in another case a brother, in another the wife, and in another case a companion of the patient. In 4 cases, infection appears to have been received in public-houses.

The particulars of sources of infection are as follows :—

A male, aged 52 years, was attended to by a sister. The brother had suffered from the disease for four years and the sister for over five years. The sister is still living.

A female, aged 48 years, contracted the disease from her sister. She had suffered from the disease for three years, and her sister had had the disease several years before the onset in the sister.

A female, aged 19 years, was attended by her sister, who is still living. The illness in the former lasted eight months, whilst the sister had suffered from the disease for several years.

A female, aged 40 years, died after an illness of four months, and was attended by her sister, who had suffered from the disease for over a year.

A female, aged 32 years, died after an illness of six months. A brother has Phthisis at present, and has had it for 12 months. The two associated together.

A male, aged 35 years, contracted the disease from his wife, who had had the disease for several years before the husband contracted it. The husband died after an illness of two years, and the wife four months after the onset of the disease in the husband.

A male, aged 23 years, died after an illness of 10 months. He had lived in a Blind Institution for some years, and in his work as basket-maker had been associated with a companion who suffered from Phthisis.

HEREDITARY DISPOSITION ASCERTAINED FROM DEATHS AND NOTIFICATIONS OF PHTHISIS.

Out of 122 cases, 32 had a family history of Consumption.

In three cases the father had died from Phthisis, in one case a father and brother, in three cases the mother, and in another case the mother had died from the disease and a sister was suffering from the disease at the time of inquiry. In five cases the brother had died from the same disease, in one case two brothers, and in another case four brothers had died from the disease, and another brother was suffering from the disease at the time of inquiry. In one case the brother and sister died from the disease, in one case the mother and a brother and sister, in three cases a sister, in two cases two sisters, and in one case a sister died from the disease and another sister was suffering from the disease at the time of inquiry. In four cases there had been relations on the father's side, in four cases on the mother's, in one case both on the mother's and father's side.

The particulars of six of these cases are as follows:—

(1) A girl, aged 9 years, suffered from the disease. Several of her father's cousins and also an aunt died from the disease.

(2) A girl, aged 19 years. Mother died from Phthisis and a sister had the disease at the time of inquiry.

(3) A female, aged 34 years. Two sisters and a brother died from the disease.

(4) A male, aged 52 years. Two sisters had the disease at the time of inquiry. An uncle on the father's side also died from the disease.

(5) A male, aged 2 years and 10 months. Grandmother (father's side), also an aunt and two uncles on mother's side died from the disease.

(6) A female, aged 26 years. The mother and a cousin on the mother's side and a brother and sister all died from the disease.

OCCUPATION.

There were 42 cases of Phthisis amongst cotton operatives, including 11 notifications and 31 Deaths, as compared with 24 notifications and 33 Deaths during 1905.

Of the notifications 4 were males and 7 females.

„ Deaths 5 „ „ 26 „

The following is the age distribution of these 31 Deaths:—

From 10 to 25 years 16 deaths occurred.

„ 25 to 45 „ 11 „ „

„ 45 years and upwards 4 deaths occurred.

The number of cases amongst weavers was 24, of whom six were males and 18 females, as compared with 13 males and 17 females during 1905.

Weavers did not suffer to a greater extent than other cotton operatives.

The remaining 18 cases amongst cotton operatives were distributed as follows:—There were 13 winders, two cardroom-hands, one tackler, one loomer, and one reacher.

There was a family history of Phthisis in 12 out of the 42 cases occurring amongst cotton operatives. Seven of the cases were weavers, three winders, one a loomer, and one a rover.

Of the 42 cotton operatives, 13 were total abstainers, 26 were temperate, and three intemperate.

Of the three intemperate, one was a male weaver, one a female winder, and one a male loomer.

In the following cases the dusty occupation was probably an important factor in causing Phthisis:—

(1) Male, aged 53 years. Had been a stonemason all his life. Was very intemperate. There was no family history of consumption.

(2) A male, aged 28 years. Had been a hairdresser for 18 years, was temperate. There was no family history of consumption, and no other predisposing cause.

(3) A male, aged 36 years. Had been a baker all his life. An uncle on the father's side had died from consumption. Deceased had been temperate and had suffered from asthma for some years previous to death.

(4) A male, aged 56 years. Had been a joiner all his life. Had been temperate. There was no family history of Phthisis.

(5) A male, aged 48 years. Had been a joiner all his life. There was a strong family history of Phthisis, as four brothers

had died from the disease and another brother suffered from the disease. Deceased had been intemperate.

(6) Male, aged 28 years. Had worked in a shoddy mill for seven years. Mother died from Phthisis. Deceased had been temperate.

Amongst foundrymen there were eight cases :—

(1) A male, aged 51 years. Was a firebeater for three years before the onset of Phthisis. Father died from Phthisis. Deceased had been intemperate.

(2) Male, aged 41 years. Worked in a foundry for nine months before developing the disease. Was temperate, and there was no family history of the disease.

(3) Male, aged 57 years. Had been a grinder for some years. Deceased had been temperate, and there was no family history of the disease.

(4) Male, aged 33 years. Had been a moulder for some years. Deceased had been temperate, and there was no family history of Phthisis.

(5) Male, aged 47 years. Had been a moulder for some years. Was temperate. No family history of Phthisis.

(6) Male, 50 years. Had been a machine-driller for some years. Fairly temperate. No family history of Phthisis.

(7) Male, aged 38 years. Shuttle-tip forger. Had been temperate, and there was no family history of Phthisis.

(8) Male, aged 52 years. Had worked in a foundry for some years. Had been temperate. There was no family history of Phthisis. Deceased had had Chronic Bronchitis for some years previous to onset of Phthisis.

SOCIAL HABITS.

The social habits of persons have an effect on the occurrence of Phthisis. Of the 122 cases investigated, 12 were under 5 years of age, four from 5 to 10 years, and five from 10 to 20 years. Of the remaining 101, 21 were total abstainers, 58 were temperate, nine fairly temperate, and the remaining 13 intemperate.

In the following cases intemperance was probably the chief predisposing factor:—

(1) A male, aged 44 years. Had been an outporter for 10 years. There was no family history of Phthisis. Deceased had been intemperate.

(2) A male, aged 31 years. Had been a bottler in a brewery. There was no family history of Phthisis. Deceased had been intemperate.

(3) A male, aged 47 years. Had been a publican. There was no family history of Phthisis. Deceased had been intemperate.

(4) A male, aged 38 years. Occupation, a driver. Had been very intemperate. There was no family history of Phthisis.

ASSOCIATED RESPIRATORY DISEASES AMONGST COTTON OPERATIVES SUFFERING FROM PHTHISIS.

There were seven cases in which respiratory diseases preceded Phthisis, as follows:—

(1) Female, weaver, aged 31 years. Had Bronchitis for some years preceding Phthisis.

(2) Female, weaver, aged 18 years. Had Bronchitis preceding Phthisis.

(3) Female, weaver, aged 29 years. Had Pleurisy 12 months before the onset of Phthisis.

(4) Female, weaver, aged 21 years. Had Pleurisy 13 months preceding Phthisis.

(5) Female, weaver, aged 36 years. Had Acute Bronchitis preceding Phthisis.

(6) Female, weaver, aged 22 years.. Had Bronchitis preceding Phthisis.

(7) Female, winder, aged 47 years. Had Pneumonia two years and six months preceding Phthisis.

PREVIOUS ILLNESSES.

Associated respiratory diseases amongst cases other than cotton operatives suffering from Phthisis occurred as follows :—

In nine cases there had been a Winter Cough for several successive years preceding Phthisis.

In one case Pneumonia, and in another case Pneumonia accompanied by Cerebral Meningitis, had preceded Phthisis.

In two cases there had been Asthma for several years preceding Phthisis.

In two cases Measles and Bronchitis, and in another case Measles and Broncho-Pneumonia had preceded Phthisis.

In eight cases Influenza, accompanied by respiratory disease, had preceded Phthisis.

In two cases Pneumonia immediately preceded; in another case Pneumonia and Pleurisy.

In four cases Bronchitis along with Influenza.

In one case there had been Chronic Gastritis for some years.

In one case there had been Nephritis immediately preceding the onset of Phthisis.

In one case Scarlet Fever and Double Otorrhœa.

In three cases there had been Anæmia following a confinement a few months before the onset of Phthisis.

In one case there had been Rheumatic Fever and Anæmia preceding Phthisis.

PREVIOUS TUBERCULAR DISEASE IN PHTHISICAL PATIENTS.

(1) A female, aged 17 years,. Had suffered from tubercular disease of the left big toe a year before the onset, followed by spinal caries immediately preceding Phthisis.

(2) A female, aged 19 years. Had suffered from tubercular disease of the glands of the neck for several years preceding Phthisis.

(3) A male, aged 14 years. Had suffered from tubercular disease of both knee joints, and also tubercular glands of the neck for several years preceding Phthisis.

INSANITARY CONDITIONS AND OVERCROWDING AT HOUSES CONTAINING PHTHISICAL PERSONS.

Inquiries were made in 122 cases respecting number of occupants in the houses, number of rooms, etc.

Four of the houses in which the cases had resided were Common Lodging-houses. One person died in the Workhouse and one in an Institution.

Of the 116 houses	1	contained	2	rooms.
„	„	81	„	4 „
„	„	15	„	5 „
„	„	16	„	6 „
„	„	3	„	7 „
„	„	1	„	8 „

(Neither the scullery or cellar are included as rooms).

With regard to the number of occupants, there were five or less in 81 out of the 116.

Of the remaining 35,

13	contained	6	persons.
12	„	7	„
6	„	8	„
2	„	9	„
2	„	10	„

Of the 13 houses containing six persons, eight were four-roomed, three were five-roomed, one was six-roomed, and one was eight-roomed.

Of the 12 houses containing seven persons, one was two-roomed, six were four-roomed, and five were six-roomed.

Of the six houses containing eight persons, five were four-roomed and one was six-roomed.

Of the two houses containing nine persons, one was six-roomed and one was seven-roomed.

Of the two houses containing 10 persons, both were four-roomed.

It will be seen from the above that in certain cases, viz., where seven persons occupied two rooms, and nine persons occupied two bedrooms, there was necessarily some overcrowding.

The sanitary condition of the 120 houses was on the whole satisfactory.

In one house the ground floor was damp, and in four houses the bedroom as well as the ground floor were damp, and in five houses the bedroom alone was damp.

Dampness was caused through defective roofs, easing-troughs, or downspouts, or dampness permeating between the bricks through the mortar being defective.

There were 14 houses in a dirty condition through lack of cleansing, and 29 houses were only fairly clean.

The following is an analysis of the sanitary conveniences at the houses visited:—

56	houses	had	fresh-water	closets.
6	„	„	slop-water	closets.
7	„	„	privy	middens.
51	„	„	pails.	

HOUSE INFECTION.

In the following cases, infection probably remained after the death of another person in the same house.

(1) A girl, aged 16 years, died after an illness of four months. A sister had died in the same house 12 months previous to the onset of illness.

(2) A girl, aged 18 years, died after an illness of nine months. A brother had died in the same house nine months previously.

Of the cases which died from Phthisis in the Workhouse it was not possible in the majority of cases to obtain information in regard to previous residence before admission to this institu-

tion. A large percentage of the cases had been living in various common Lodging-houses for some months previously, and had changed from one Lodging-house to another.

PRECAUTIONS TAKEN.

I.—At Home.

74 cases were isolated, but five for a portion of the illness only.

18 of the persons used rags, 41 paper, and six paper and rags for the expectoration, the paper or rags being afterwards burnt.

In four cases a vessel containing paper was used, the contents burnt, and the vessel afterwards scalded.

In two cases a vessel containing sawdust was used, and the contents emptied into the fire in one case, and in the other into the pail.

In 37 cases a vessel was used. The contents were emptied into the fire in 17 cases, and in 20 cases into the sanitary conveniences. The vessel was afterwards scalded in 20 cases, and in one case afterwards washed out with Condyl's fluid.

II.—At Work.

With few exceptions, no precautions were taken at work.

DISINFECTION.

After each death from Phthisis I sent a letter stating that for the protection of the health of the inmates the house should be disinfected thoroughly, and offering to send men to carry out this work at the expense of the Health Department.

A great number were also seen personally and disinfection strongly advised.

This offer was accepted in 83 cases out of the 124 deaths from this disease, as compared with 97 out of 142 deaths during 1905.

Eighty-six rooms at these 83 houses were disinfected, and also the following articles removed and disinfected:—

45	Beds.
32	Mattresses.
60	Bolsters.
25	Quilts.
18	Blankets.
25	Sheets.
36	Carpets.
50	Sundries.

One bed and five mattresses were destroyed by consent of the owners.

Out of the 137 houses in which cases of Phthisis were notified 13 rooms at nine houses were disinfected by request of the tenants.

Of the 124 deaths, 63 had been notified during life, or 50.8 per cent., compared with 70 and 49.2 per cent. in 1905, and 14 died at the Workhouse, and one at the Infirmary, as compared with 19 at the Workhouse and one at the Infirmary during 1905.

The 124 deaths arranged in age periods are as follow:—

0-1	1-5	5-10	10-15	15-20	20-25	25-35	35-45	45-55
1	7	2	3	11	16	29	27	18
			55-60	60-65	65-75	75-85		
			5	3	1	1	—Total 124.	

Of these deaths 62 were males and 62 females.

TABLE XLI.

Deaths from Tuberculosis for Ten Years

	1906.		1905.		1904.		1903.		1902.		1901.		1900.		1899.		1898.		1897.	
	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate	Deaths	Death Rate
General Tuberculosis..	14	0.10	17	0.12	10	0.07	8	0.06	18	0.13	22	0.17	6	0.04	4	0.03	8	0.06	15	0.11
Tabes Mesenterica ...	34	0.25	27	0.20	40	0.30	28	0.21	24	0.18	35	0.27	47	0.37	20	0.15	34	0.27	54	0.43
Acute Hydrocephalus & Tubercular Meningitis	24	0.17	33	0.24	28	0.21	47	0.35	51	0.39	23	0.18	14	0.11	8	0.06	7	0.05	7	0.05
Phthisis	124	0.92	142	1.06	125	0.94	122	0.93	163	1.25	150	1.17	148	1.16	152	1.20	154	1.22	149	1.19
Other Forms	6	0.04	7	0.05	8	0.06	8	0.06	6	0.04	12	0.09	30	0.23	33	0.26	13	0.10	14	0.11
Total	202	1.51	226	1.70	211	1.59	213	1.62	262	2.0	242	1.89	245	1.92	217	1.71	216	1.72	239	1.91

FACTORIES AND WORKSHOPS.

The Factory and Workshop Act of 1901 has again been well administered during the year, and many important improvements have been carried out, especially in the Factories.

There are 863 workshops, containing 1,168 rooms, of which 47 are underground, on the Register for the year ending December 31st, 1906, including 63 domestic workshops, and 48 new tenants from whom notices of occupation have been received, thus showing an increase of 19 after the Register has been corrected and the removals deducted.

The approximate number of males employed in these workshops was 1,781 and the number of females 1,104, as compared with 1,745 males and 1,120 females in 1905.

The inspections to the above workshops and workrooms have greatly increased, as also the visits to the factories, viz.:—Visits to factories, 748 and visits to workshops 441, as compared with 203 and 272 visits respectively during 1905.

A summary of 2,456 visits may be seen in Table XLIII.

The 499 defects found have been set forth in Table XLIV., of which 439 have been remedied in Table XLII., the 60 defects outstanding being chiefly in connection with sanitary conveniences in factories which it is expected will be remedied before the close of the present year (1907).

It will be noted that better results have been obtained during the year 1906, viz.:—Defects found, 499; remedied, 439; outstanding, 60. As compared with 1905, viz.:—Defects found, 497; remedied, 376; outstanding, 121.

I would point out that so far it has been unnecessary to resort to legal proceedings in order to get the defaulters to comply with my notices to remedy the defects found.

A summary of the defects found and remedied at factories is set forth in Tables XLV. and XLVI.

I.—SANITARY CONDITIONS OF WORKSHOPS.

(A) CLEANLINESS.

Four workshops were found to have dirty floors or windows.

Three workshops were found to have dirty yards, as compared with 23 in 1905, and 14 rooms required limewashing at the Inspector's visit, as compared with 26 in 1905.

The above figures show that cleanliness is better maintained when a strict supervision is kept over the various workshops.

(B) AIR SPACE.

No workrooms were found to be overcrowded, as compared with one in 1905.

(C) VENTILATION.

No workrooms were found to be deficient in ventilation, compared with 10 in 1905, 9 in 1904, 28 in 1903, and 55 in 1902.

This is a great improvement, as the occupiers of workshops pay greater attention than formerly in preventing the employees from obstructing the air current by closing the ventilators.

(D) DRAINAGE OF FLOORS ON WHICH WET PROCESSES ARE CARRIED ON.

These processes include tripe-boiling establishments, laundries, etc., and the drainage of these floors have been so satisfactory that there has not been any reason for complaint.

SANITARY CONVENIENCES IN WORKSHOPS.

The following is the character of the sanitary conveniences at the various workshops :—

694	Water Closets.
224	Tub Closets.
22	Privy Middens.

These figures show a decided improvement as compared with 1905 :—

620	Water Closets.
240	Tub Closets.
53	Privy Middens.

Notices outstanding at the end of the year 1905 were in connection with the following requirements, at 27 factories :—

Additional sanitary accommodation required	51
Repairs or re-construction of sanitary conveniences required	104
Defective urinals	11

Other defects not enumerated here are shown in Table XLV.

During 1906, notices for the provision of the following requirements were issued to 52 factories and 10 workshops, viz. :—

Additional sanitary accommodation required at factories	102
Additional sanitary accommodation required at workshops	4
	<hr/>
	106
Repairs or re-construction of sanitary conveniences at factories	213
Repairs and re-construction of sanitary conveniences required at workshops	12
	<hr/>
	225
Defective urinals at factories	33

Other defects not enumerated here are shown in Table XLVI.

The following shows at a glance the number of additional water closets provided, and the re-constructions carried out during 1906, and also the number of outstanding defects at the end of the year.

	Additional Sanitary Conveniences Required.	Completed during 1906.	Outstanding Defects end of Year 1906.
At the end of 1905. F.....	51	31	20
During 1906. F.	102	60	42
" " W.....	4	2	2
	157	93	64
Reconstructions Required :—			
At the end of 1905. F.....	104	57	47
During 1906. F.	213	128	85
" " W.....	12	4	8
	329	189	140
	486	282	204

Outstanding defects to sanitary conveniences at the end of the year 1906 :—

204 Sanitary Conveniences.

16 Urinals.

SANITARY CONVENIENCES IN FACTORIES.

The following appears in Section 5, Factory and Workshops Act, 1901 :—

(1) Where it appears to an Inspector that any act, neglect, or default in relation to any drain, water closet, earth closet, privy, ashpit, water supply, nuisance, or other matter in a factory or workshop, is punishable or remediable under the law relating to Public Health, but not under this Act, that Inspector shall give

notice in writing of the act, neglect, or default to the District Council in whose district the factory or workshop is situate, and it shall be the duty of the District Council to make such inquiry into the subject of the notice, and take such action thereon as seems to that Council proper for the purpose of enforcing the law, and to inform the Inspector of the proceedings taken in consequence of the notice.

Sixty-seven notifications under the above (Section 5, Factory and Workshops Act, 1901) have been received from H.M. Inspectors, viz. :—

Fifty-two for factories and 15 for workshops, as follows :—

QUARRY STREET.—“Sanitary accommodation insufficient, seven for 233 females.” Notice was sent to provide and maintain in good working order three additional water closets, and to screen the entrance to the closets used by the male employees. This work has not yet been completed.

SWALLOW STREET.—“Sanitary accommodation defective—no doors to females’ closets and number insufficient, 11 for 407 females.” Notice was sent to provide and maintain in good working order six additional water closets, to repair a defective urinal, and to disconnect the closets situated in the looming and winding-rooms from the workrooms by intervening ventilated spaces. The above work was carried out satisfactorily and made to comply with the Factory and Workshops Act of 1901.

HARLEY STREET.—“Sanitary accommodation insufficient, five for 172 females.” Notice was sent to provide and maintain in good working order two additional water closets, which was carried out satisfactorily.

WARD STREET.—“Sanitary accommodation insufficient, three for 120 males and four for 226 females. Only one of the women’s closets has a door.” Notice to provide and maintain in good working order six additional water closets, and

to provide doors to the women's closets, and to repair the seat-boards of the existing closets. This work has not been completed, an extension of time having been granted on account of intended enlargement of the mill.

STANLEY STREET.—“Sanitary accommodation insufficient, five for 145 females and four for 137 males.” Notice was sent to provide and maintain in good working order three additional water closets, also to take out the defective and insanitary pan closet, and to replace the same with a good pedestal wash-down closet of an approved type, for the use of the office staff. This work is under consideration.

OAK STRET.—“Sanitary accommodation insufficient, two for 73.” Notice was sent to provide and maintain in good working order one additional water closet, and to convert the four insanitary pail closets to water closets of an approved type. This work has not been completed, an extension of time having been granted on account of proposed enlargement of the factory, when an increased number of sanitary conveniences will be required.

ROE LEE.—“Sanitary accommodation insufficient, six for 170 females.” On investigation by the Inspector it was found that the closet accommodation at this mill was quite sufficient for the number of persons employed, viz., seven conveniences for 170 females, therefore no notice was sent.

KAY STREET.—“Sanitary accommodation defective—two insufficient in number.” On investigation it was found that there were two insufficient in number, and that the existing closets were defective inasmuch as that several of them communicated directly with the workrooms, and the conveniences were of an obsolete type, and causing a serious nuisance by effluvium. Notice was sent to provide and maintain in good working order two additional water closets of an approved type, and to re-construct the weaving-shed and winding-room closets. In order to meet the requirements

of the notice, six new conveniences, fitted with pedestal wash-down closets of modern type, with automatic flushing apparatus, were erected in the mill yard. The weaving-shed conveniences, consisting of four trough closets, were re-arranged, i.e., two were demolished and two re-constructed into one, with an intervening ventilated space between the convenience and the workroom, and the trough replaced with a modern pedestal wash-down closet. The winding-room trough was removed and replaced with a modern pedestal wash-down closet, connected to a new iron soil-pipe situated on the external wall, and ventilated by the shaft being continued above the parapet of the mill; the convenience was also disconnected from the workroom by an intervening ventilated space.

BLACK DIAMOND STREET.—“Sanitary accommodation defective and insufficient, five for 188 females.” The number of conveniences were found to be three insufficient, and of an obsolete type, and causing a nuisance through not being efficiently ventilated; also they communicated with the workrooms. Notice was sent to provide and maintain in good working order three additional water closets, and to take out the 10 existing defective trough closets and replace the same with a sufficient number of modern pedestal wash-down closets. In order to comply with the requirements of the notice it was necessary to re-arrange the conveniences throughout the mill, viz., a range of six water closets were erected in the mill yard and properly disconnected from the weaving-shed by a space open to the external air for the use of the female weavers. Another new range, consisting of four water closets and two urinals were erected for the use of the male weavers and warehousemen and properly disconnected from the workrooms by intervening ventilated spaces. The winding-room trough closets were removed and replaced by a pedestal wash-down closet of modern type, and an additional one provided by its side, both being properly lighted, ventilated, and disconnected from the workroom by an intervening ventilated space, for the use of the female winders.

HOLLIN BANK.—“Sanitary accommodation insufficient and defective, three for 198 females, no doors.” The closets at this mill were found to consist of iron hoppers discharging into an iron tank, the excreta having to be removed from the tank periodically. Notice was sent to provide and maintain in good working order five additional water closets, and to convert the existing tank closets to those of modern type. It was afterwards ascertained that the tank closets could not be converted into water closets on account of the position being lower than the sewer in the main street, and in order to relieve the use of the tank as much as possible it was arranged that seven new water closets should be erected at the other side of the mill for the use of a portion of the female weavers and winders, thus making the closets more accessible.

MARY STREET.—“Sanitary accommodation insufficient, five for 160 females and four for 124 males. Condition not examined.” Notice was sent to provide and maintain in good working order three additional water closets of an approved type, and to convert the existing insanitary trough closets to those of modern type. This work has not been completed, but is under consideration.

MILL HILL.—“Sanitary accommodation insufficient, seven for 221 females in weaving, winding, etc., departments. Condition not examined. There are stated to be eight conveniences for 155 males.” On investigation by my Inspector it was found that there were two conveniences insufficient for the use of the females, and two too many for the use of male employees, the condition of the closets being satisfactory at the time of visit. Notice was sent to re-arrange the conveniences so that there would be nine for the use of the females and six for the use of the males at that time employed. This was carried out satisfactorily.

ALBERT STREET.—“Sanitary accommodation insufficient, four for 127 females.” Notice was sent to provide

and maintain in good working order three additional water closets, and to convert the existing insanitary trough closets to four pedestal wash-down closets of modern type; also to re-construct the defective urinal. This work was carried out satisfactorily.

LIVESEY.—“Sanitary accommodation insufficient, three for 121 males and five for 140 females.” Notice was sent to provide and maintain in good working order three additional water closets, and to convert the eight existing insanitary trough closets to pedestal wash-down closets of modern type, and to re-construct the defective urinal. This work has been completed satisfactorily.

WITTON.—“Sanitary accommodation insufficient, six for 206 females.” Notice to provide three additional water closets and to convert six privy closets into water closets on an approved principle, and to maintain them in good working order was sent to this firm. This work has been satisfactorily carried out by the erection of a complete new range of 12 pedestal wash-down closets and sufficient urinal accommodation.

LIVESEY.—“Sanitary accommodation insufficient. 10 for 344 females.” Notice was sent to provide and maintain in good working order four additional water closets, and to convert 10 privy closets into water closets on an approved principle; also 20 trough closets of an obsolete type. This work was satisfactorily carried out by providing in all 43 water closets and two urinals of a modern type.

ST. PETER STREET.—“Closet unventilated.” Notice was sent to provide and maintain efficient ventilation to the water closet. This was carried out satisfactorily.

MINCING LANE.—“(Northgate).” “Not sufficient sanitary accommodation for both sexes.” On investigation it was found the tenants were leaving the “Northgate” premises and com-

mencing business in "Mincing Lane," and that alterations to the sanitary conveniences were required there. Notice of the requirements was sent and complied with satisfactorily.

COBDEN STREET.—"Sanitary accommodation defective, no doors or partitions to weavers' closets and number insufficient—three seats for 112 females." Notice was sent to provide and maintain in good working order two additional water closets, and to convert the existing insanitary trough closets to pedestal wash-down closets of an approved type. To separate the conveniences with partition walls, and to provide and fix doors, etc. This work has not yet been carried out.

MONTAGUE STREET.—"Closet unventilated." Notice was sent to provide the closet with efficient ventilation. This was complied with satisfactorily.

DICKENS STREET.—"No doors to closets for women, etc." In order to make the sanitary accommodation comply with the requirements of the Factory and Workshop Act of 1901 the sanitary conveniences were re-arranged throughout two mills, and the following work was carried out satisfactorily:—Five additional water closets were provided, 38 trough closets were converted to pedestal wash-down closets, four defective short hopper closets were replaced with pedestal closets, and six urinals of modern type were erected, all lighted, ventilated, and disconnected from the workrooms by intervening ventilated spaces.

RANDAL STREET.—"Sanitary conveniences not separated for the sexes." Notice was sent to separate the sanitary conveniences used by the different sexes. This was complied with satisfactorily.

PARK ROAD.—"Sanitary accommodation defective. New women's closets provided last year without doors." Doors would have been provided to these conveniences had there

been sufficient room to hang them, and to have found another position to erect larger conveniences would not have complied with the clause that "the conveniences shall be conveniently accessible to the employees at all times during their employment," as it would have necessitated erecting the same a long distance from the workroom in order to obtain sufficient space.

WITTON.—"No doors to women's closets." Notice was sent to provide a door to each convenience used by a female. This was not complied with satisfactorily, and is under further consideration.

LITTLE PEEL STREET.—"W.C.'s in winding room defective—two seats in enclosure, no doors or partitions, and no intervening ventilated space; other closets not examined." Notice was sent to re-arrange the closets so as to comply with the Factory and Workshops Act of 1901. This was done by removing the winding-room closets, demolishing the existing closets situated in the yard, and erecting 11 new pedestal wash-down closets and urinal on a modern principle.

EANAM.—"Sanitary accommodation insufficient, three for 124 females." Notice was sent to provide two additional water closets, to convert the existing insanitary trough closets to pedestal wash-down closets of an approved type, and to repair the structure of the conveniences and screen urinal. This work has not yet been carried out.

KNUZDEN.—"Winders' w.c.'s not ventilated. No doors on women's shed closets." Winders' w.c.'s have been efficiently ventilated and doors put on to the women's shed closets. Some other alterations are under consideration.

BROOKHOUSE.—"Closets for both sexes in sizing room together, opening direct into the room and unscreened. The other closets were not examined." Notice was sent and the alterations required were satisfactorily carried out, and six additional water closets provided.

AUDLEY RANGE.—“Sanitary accommodation insufficient, four for 141 females.” Notice was sent to provide two additional water closets and to convert the existing six insanitary trough closets into pedestal wash-down closets of modern type, and to carry out other alterations specified. One additional water-closet has been provided, and the other portion of work is under consideration.

GARDEN STREET.—“Sanitary accommodation insufficient, nine for 298 females.” Notice was sent, and three additional water closets have been provided.

WALPOLE STREET.—“No sanitary convenience.” Notice was sent, and a pedestal wash-down closet has been provided.

SIMMONS STREET.—“A stable within the factory.” Notice has been sent to discontinue stabling horses within the factory. This will be discontinued as soon as other suitable premises are obtained.

MINCING LANE.—“Sanitary convenience unsuitable.” Notice to cleanse the w.c. pan and limewash the internal walls and ceiling. The work has been done satisfactorily.

BLAKEY STREET.—“The outside staircase is in a dangerous condition.” Notice was sent to remove the defective staircase and provide and fix a suitable one. This has been done satisfactorily.

MINCING LANE.—“Sanitary convenience inside workroom.” Notice was sent to disconnect the sanitary convenience from the workroom. This was complied with by providing an intervening ventilated space.

HIGH STREET.—“Complaint of smell from closet and stable. No ventilated passage between closet and workroom.” Notice was sent to provide an intervening ventilated space between the closet and the workroom. This has not been completed.

GREAVES STREET.—“Sanitary accommodation insufficient, three for 100 females.” Notices were sent to provide and maintain one additional water closet, and to provide the existing w.c. with more light. This work is under consideration.

PATERSON STREET.—“Sanitary accommodation insufficient, three for 117 males and three for 135 females.” Notice was sent to provide and maintain in good working order five additional water closets, and to convert and re-construct the existing insanitary and dilapidated closets into those of modern type. This work is under consideration.

GRIMSHAW PARK.—“Sanitary accommodation defective, new women’s closets without doors. Query, sufficient in number?” Notice has been sent to provide a door, with fastenings, to each of the three new closets, though at the time they were erected a door to each one was not considered to be necessary.

CORT STREET.—“Drains in cellar overflowing over the floor.” The drains were remedied without delay on verbal notice.

The following notices were issued during the latter part of December, 1906:—

EDEN STREET.—“Sanitary accommodation insufficient, seven for 220 females and four for 90 males.” Notice was sent to provide and maintain two additional water closets in good working order, and to convert and re-construct the existing insanitary trough closets to water closets of modern type.

WILLOW STREET.—“Sanitary accommodation defective. No doors to women’s closets, and insufficient, three for 77 males and five for 183 females.” Notice was sent to provide and maintain in good working order four additional water closets, and to convert and re-construct the existing defective closets to those of modern type.

GEORGE STREET WEST.—“Sanitary accommodation defective and insufficient, two M., three F., for about 200 hands, mainly females.” Notice was sent to provide and maintain six additional water closets, and to convert the existing defective closets to those of modern type. This work has been commenced.

PEEL STREET.—“Sanitary accommodation defective. No doors to women’s closets.” Notice was sent to provide and maintain in good working order one additional water closet, and to convert and reconstruct the existing defective closets to those of modern type.

INFIRMARY STREET.—“Sanitary accommodation defective.” Notice was sent to provide and maintain in good working order three additional water closets, and to convert and reconstruct the existing defective closets to those of modern type.

KENT STREET.—“Sanitary accommodation defective. No doors to women’s closets, and insufficient, five for 143 females and five for 111 males.” Notice was sent to provide and maintain in good working order one additional water closet, and to convert and re-construct the existing defective closets to those of modern type.

FOUNDRY HILL.—“Sanitary accommodation defective. The outside closets have no roof, ventilation of inside closets defective.” Notice was sent to convert and re-construct the existing defective closets to those of modern type.

MILL HILL.—“Sanitary accommodation defective. No doors to women’s closets and insufficient for females, seven for 221; males (eight for 155).” No notice was sent with regard to this as the matter had been dealt with before receipt of notification. The closets had been re-arranged so that there were sufficient for the number of persons employed. Doors were not provided for each closet on account of insufficient room.

PARK ROAD.—“Closet defective in top mule room.” This defect was remedied on receipt of notice.

HALL STREET.—“Sanitary accommodation defective. No doors, offensive smell, etc.” No notice was sent, as on investigation it was found that there was sufficient accommodation for the number of employees, that doors could not be provided to each of the females' closets on account of insufficient room, and at the time of my Inspector's visit there was not any offensive smell from the sanitary conveniences.

BYROM STREET.—“Sanitary accommodation insufficient, two for 74 females.” Notice was given to provide one additional water closet, and to convert the existing privy closets to water closets of modern type. This work has been carried out satisfactorily.

SIMMONS STREET.—“Insufficient sanitary accommodation provided.” Notice was sent to provide two additional water closets. This work has been carried out satisfactorily.

In addition to the notifications received from H.M. Inspectors, several complaints have been received by myself and investigated by an Inspector as follows:—

LANCASTER STREET.—“Sanitary accommodation not satisfactory.” Notice was sent to convert and to re-construct the sanitary conveniences so as to comply with the Factory and Workshops Act of 1901. Seven new water closets were erected in the mill yard, and three trough closets were demolished. There are one or two minor details to the existing closets requiring completion.

BANK TOP.—“Sanitary accommodation not satisfactory.” The sanitary conveniences consisted of six seats on an iron trough, which, with structure containing the same, were demolished and replaced by a range of six water closets and a three-

stall urinal of modern type. Also seven additional conveniences were provided, viz. :—Two pedestal wash-down closets and one-stall urinal, two pedestal wash-down closets and one-stall urinal, three pedestal wash-down closets and two-stall urinal, in different positions at the mill, all of modern type.

CUMPSTEY STREET.—“ Drain in connection with water closet blocked.” Notice was sent and the drain opened and cleansed forthwith.

DEWHURST STREET.—“ *Re* case of typhoid fever.” The sanitary accommodation was found to be insufficient and in want of cleansing ; also a defective urinal. Notice was sent to provide one additional water closet, to cleanse the conveniences, and to provide a suitable urinal. This work was put in hand without delay, and carried out in a satisfactory manner.

LOGWOOD STREET.—“ No sanitary accommodation.” On investigation it was found that the sanitary accommodation consisted of three dilapidated pail closets. Notice was sent to provide sufficient and suitable sanitary accommodation, viz., four water closets and urinal of modern type. This notice was issued during the latter part of December, 1906, and the work commenced immediately.

The following is a list of outstanding notices at the end of the year 1905 and work carried out during 1906 :—

HIGHER AUDLEY STREET.—“ To provide five additional water closets, and to convert the existing 16 trough and privy closets to water closets of modern type.” Owing to a sewer not being accessible this work has had to remain in abeyance.

CUMPSTEY STREET.—“ To provide three additional water closets and to convert the existing troughs into water closets of modern type, with sufficient urinal accommodation.” This

work was allowed to remain in abeyance owing to contemplated extensions of the factory, but is now under reconsideration.

ELEANOR STREET.—“To provide four additional water closets and to convert the existing defective closets into water closets of modern type.” This work has been allowed to stand in abeyance owing to a sewer not being accessible.

ALBERT STREET.—“To provide two additional water closets, and to re-construct existing closets.” Work completed.

COMMERCIAL STREET.—“To provide six additional water closets and convert the existing insanitary closets to three water closets and urinal of modern type.” Work carried out.

MANNER SUTTON STREET.—“To convert the 12 existing insanitary closets to water closets of modern type.” Fourteen wash-down closets have been provided. Work completed.

MINCING LANE.—“Sanitary convenience in workroom unventilated.” This water closet was taken down and erected in a position against an external wall and ventilated direct to the external air.” Completed.

WALPOLE STREET AND LUCKNOW STREET.—“To provide three additional water closets and to convert the existing 13 defective closets to those of modern type, with urinals.” Work completed.

MINCING LANE.—“Closets unsuitable.” Two dilapidated pail closets have been converted to pedestal wash-down closets of modern type. Completed.

ROYSHAW.—“No closet provided.” This work has been allowed to stand in abeyance owing to the expiration of the tenancy of the present occupier.

DUKE STREET.—“To provide three additional water closets, to cleanse existing closets, and to repair flushing apparatus.” Completed.

HALL STREET.—“To provide one additional water closet and to convert the seven existing closets to a modern type.” Completed.

LOWER HOLLIN BANK STREET.—“To provide three additional water closets and to re-construct and convert the existing insanitary closets to those of modern type.” These are now under consideration.

MILL HILL.—“To provide five additional water closets and to convert six pail closets and five privy closets to those of modern type.” The conversion of the privy closets is under consideration, and the other portion completed.

FORREST STREET.—“To provide one additional water closet.” Completed.

EXCHANGE STREET.—“Closet unventilated, also defective short hopper closet.” A new pedestal wash down closet was provided and the convenience properly ventilated. Completed.

WHALLEY NEW ROAD.—“To provide four additional water closets and to reconstruct existing closets.” Under consideration.

WHALLEY NEW ROAD.—“To reconstruct and to convert existing insanitary closets.” Under consideration.

COBDEN STREET.—“To provide one additional water closet.” Completed.

NAB LANE.—“To provide two additional water closets.” Completed.

DICKINSON STREET.—“To provide one additional water closet and to convert five troughs to five pedestal water closets.” Completed.

PARADISE STREET.—“To ventilate closet.” Completed.

LARKHILL STREET.—“To provide suitable water closet.” Completed.

APPLE STREET.—“To provide three additional water closets.” Six water closets of modern type were provided.

WORKSHOPS.

THORNBUR STREET.—“Sanitary conveniences not provided.” Arrangements were made for the two youths employed to have the use of the sanitary convenience at their employer's, who resides next door to the workshop.

BACK UNION STREET.—“Walls and ceiling of workroom appear to require limewashing.” This work was carried out by the occupier on receipt of notice.

LIMEFIELD.—“Limewashing of bakehouse three months overdue as per register.” This work was carried out immediately upon receipt of notice.

CANTERBURY STREET.—“Sanitary convenience not provided.” Notice was sent and a suitable water closet provided.

SCOTLAND ROAD.—“Workroom appears to require limewashing.” Notice was sent and the work carried out forthwith.

KING WILLIAM STREET.—“Separate sanitary conveniences not provided for the sexes.” Notice was sent and an additional water closet provided, and separated for the sexes.

KING WILLIAM STREET.—“Slopstone and surroundings in a filthy state.” Notice was sent to cleanse the slopstone and its surroundings, and to prevent further accumulations of filth. Work carried out satisfactorily.

HARWOOD STREET.—“Workshop appears to require limewashing.” Notice was sent to limewash the workshop, and the work was completed as required.

ALBERT STREET.—“The surroundings of the sanitary convenience are in an offensive state.” This was found to be a dilapidated pail closet, and notice was sent to re-construct the same and to convert it into a water closet of modern type. Arrangements were made, and an extension of time granted, as it is the intention of the owners to pull this property down.

KING WILLIAM STREET.—“Walls and ceiling of workroom appear to require limewashing.” Notice was sent to carry out the above work, which was completed without delay.

PRESTON NEW ROAD.—“Walls and ceiling of workroom appear to require limewashing.” Notice was given, and the work required completed forthwith.

PRESTON NEW ROAD.—“Tiling of bakehouse not completed, and the ceiling of bakehouse appears to require limewashing.” This work was unfinished, and the delay was caused through the owner, it is alleged, being unable to match the tiles in use, though notice had been given him to complete the work as soon as possible.

NEW BANK ROAD.—“Workshop appears to require limewashing.” Notice was sent, and the work required carried out immediately.

WATER STREET.—“No separate sanitary conveniences provided for the sexes.” Notice was sent to provide sufficient and suitable sanitary accommodation, and the work was put in hand at once.

COPY NOOK.—“Workshop appears to require limewashing.”
 Notice was sent, and the work required carried out without delay.

UNDERGROUND ROOMS.

There are 47 underground workrooms in the Borough, including those used by bakers, as compared with 64 in 1905.

BAKEHOUSES.

There are 128 names on the Workshop Register as bakers, which include wholesale bakers, retail bakers, and domestic retail bakers and sugar boilers.

They occupy 146 rooms, of which seven are underground.

124 males and 156 females are employed in the baking industry of this town.

In 10 bakehouses both sexes are employed, showing an increase of five as compared with 1905.

14 notices have been issued with regard to insanitary conditions and defects.

UNDERGROUND BAKEHOUSES.

There were 21 underground bakehouses in the Borough at the end of 1903, which, under Section 101 of the Factory and Workshops Act, 1901, were reduced to 12 during 1904, and which have been further reduced to six, consisting of seven rooms, at the end of 1906.

In use at the end of 1903	21
Closed during 1904	9
Closed during 1905	5
Closed during 1906	1
	—
	15
	—
	15
	—
In use at the end of 1906	6

LIGHTING OF WORKSHOPS.

The lighting of 566 workshops is over $\frac{1}{70}$ th of the total cubic space

WORKPLACES.

The term "Workplace" is not defined in the Act, but it includes any place where work is done permanently, and where people assemble together to do work permanently of some kind or other.

It also includes places where two or more persons meet regularly to perform some work, such work not being in the making, altering, repairing, ornamenting, finishing, or adapting for sale of any article.

In connection with these places 30 visits have been made for the purpose of seeing that the provisions of the Factory and Workshop Act had been complied with, and 18 notices were sent recommending the following 18 defects to be remedied:—

- 1 Room required limewashing.
- 1 Yard dirty
- 1 Drains defective.
- 3 Drains blocked.
- 1 Insufficient downspout drainage
- 2 Defective slop gullies.

2	Accumulations of refuse.
1	Yard surface in bad repair.
1	Defective slop-pipe.
3	General repairs.
2	Closets in want of repair.
—	
18	

FOOD-PREPARING PLACES.

Under this heading are included all pork butchers' shops and other places (not including workshops) in which meat pies, black puddings, sausages, potted meats, tongues, etc., are prepared for human consumption.

During the year 47 visits have been paid to these places, a decrease as compared with 640 in 1905, owing to the largely increased number of visits to factories, and nearly the double number of visits to workshops.

RESTAURANTS.

The kitchens of restaurants, hotels, and dining-rooms are included in the definition of "workplaces," which is a term used in the Factory and Workshop Act, 1901.

The power to inspect these places is given in the Public Health Act (Sections 2 and 47) and in the Factory and Workshop Act (Section 2).

The inspection of these places have been included in the visits to the food-preparing places.

FRIED-FISH AND CHIPPED-POTATO SHOPS.

The number of these places in the town was estimated at 200 in 1905, and no doubt that number will have increased during the present year.

Notices were sent requesting that the following defects should be remedied:—

- 1 Dirty floor.
- 1 Yard dirty.
- 8 Yard surfaces in bad repair.
- 8 Defective drains.
- 5 Insufficient downspout drainage.
- 13 Defective gullies and dish stones.
- 2 Accumulations of refuse.
- 1 Closet in want of repair.

ICE-CREAM PLACES.

As stated in my Report of 1905, I am of opinion that registration and annual re-registration of these places should be enforced, in order to ensure ice-cream being prepared under thoroughly sanitary conditions.

This trade is chiefly carried on by foreigners generally (Italians and French), who come into the town and take up their abode in furnished rooms and common lodging-houses situated in the lower districts, in some cases having only one room, such as the living and sleeping room combined.

It is with this class of people that a very great difficulty arises in making them prepare and store ice-cream under proper conditions.

If enforced registration were adopted the difficulty would be overcome to some extent, as they would not be allowed to make ice-cream in any place unless it had been considered suitable by the Medical Officer of Health.

MARINE STORE DEALERS.

The improvement made last year (1905) has apparently been maintained during the present year with regard to the occupiers paying attention to the removal of bones before they became offensive.

Many of these bones are either collected or brought from local butchers, and include the heads of animals with portions of flesh attached.

They are sometimes stored in the premises for several days, and as they decompose cause a great nuisance, especially if the weather is hot and close.

The similar storage of filthy rags and other refuse upon the same premises adds to the nuisance.

Conditions such as these, together with the fact that the premises at present used are not altogether suitable, render the trade a difficult one to regulate efficiently.

In this connection also I would deprecate the custom of hawking salt which has been in contact with rags, etc., during the day, and which is stored in unwholesome places at night. Much has been done to try and lessen the evil which may arise by requesting the dealers to store salt in a separate place from the rags, stones, etc., etc., and by informing the hawkers in the streets that they must provide and keep a covered box for the salt on the barrows or carts, so as to separate it from the rags, etc.

The part referring to hawkers will not be properly controlled until it is made compulsory to provide a suitable covered box in which to store their small quantity of salt.

Many of the marine store-keepers have been asked their opinion as regards the hawking of salt by the rag-gatherers, and have stated that they do not encourage the trade, and would welcome any printed notice from the Medical Officer of Health forbidding the rag-gatherers to carry salt on their conveyances.

I would again bring before your notice the opinion that it would be a great advantage if all marine store dealers were subject to registration, and if bye-laws were made for regulating the duration of the licence.

Insanitary conditions on their premises could then be dealt with more effectually.

During the year it has been necessary to give notice to three occupiers of marine stores to remove accumulations of refuse, and two have been requested to find more suitable and isolated premises from surrounding dwelling-houses in which to carry on their trade.

I again strongly recommend that all marine stores should be subject to Section 112 of the Public Health Act, i.e., that before a person can open a marine store he must obtain the written consent of the Council upon the recommendation of the Medical Officer of Health, such as applies to offensive trades.

OFFENSIVE TRADES.

There are 18 establishments in the Borough in which offensive trades are carried on.

They are as follows:—

Tripe dressers	7
Fat melters	5
Gut scrapers	3
Bone boiler	1
Knacker	2
	—
	18

One notice only was required, viz.:—To provide means for removing accumulations of steam from the boiling-room at a tripe dresser's works.

THE RECORD OF OUTWORKERS.

This portion of the Factory and Workshops Act, 1901, does not seem to be understood by the people to whom it applies,

and though during 1905 great trouble was taken to put the matter plainly before them, there is still a difficulty in getting them to comply with the requirements.

According to Section 107 of the Factory and Workshops Act of 1901, the occupier of every factory and workshop, and every contractor employed by any such occupier in the business of the factory or workshop shall :—

- I. Keep lists giving the names and addresses of all persons directly employed by him, either as workmen or as contractors in the business of the factory or workshop, "outside the factory or workshop," and the places where they are employed ; and
- II. Send on or before the first day of February and the first day of August in each year copies of those lists to the Town Council.

The penalty for a contravention of this Section is £2 and for subsequent offences is £5.

For example, if a tailor receives an order to make, clean, or wash any wearing apparel, and under circumstances he is not able to carry out the work required on his own premises, or in his own workshop, and has to send the work, or a portion of the work, to be completed on other premises, over which he himself has no control, then—

If the work is sent to be done by a person at his or her "own dwelling-house," that person so employed is an "outworker" ; and

If the work is sent to be done by a person who has a "workshop" and employs other persons to assist him or her to complete the work, then that person is a "contractor." The contractor may employ outworkers.

It is the names and addresses of such "outworkers" and "contractors" who have been actually employed during the previous six months to the first day of February and the first day of August in each year that are required to be sent in by their employers to the Town Council, so that such places may be inspected as required by Sections 108, 109, and 110 of the Factory and Workshops Act of 1901.

The following is a list of the "Nature of the work" to which the above requirements apply:—

Wearing apparel :

- (1) Making, etc.
- (2) Cleaning and washing.

Lace, lace curtains, and nets.

Furniture and upholstery.

Fur pulling.

Umbrellas.

Paper bags and boxes.

Brush-making.

Stuffed toys.

File-making.

Electro-plate.

Cables and chains.

Anchors and grapnels.

Cart gear.

Locks, latches, and keys.

During 1905, and again in 1906, a circular letter was sent to many firms in the Borough who were thought likely to employ "outworkers" as follows:—

Public Health Office,
51 Ainsworth Street,
Blackburn, 1906.

Dear Sir,

I beg to call your attention to Section 107 of the Factory and Workshops Act of 1901, which states that—

“The occupier of every factory and workshop, and
“every contractor of the factory or workshop, shall—

“Keep in the prescribed form and manner, with
“the prescribed particulars, lists, showing the names
“and addresses of all persons directly employed by him
“either as workmen or contractors, in the business of the
“factory or workshop, and the places where they are
“employed ; and—

“Send, on or before the first day of February and
“the first day of August in each year, copies of those
“lists to the District Council in which the factory or
“workshop is situate.

“In the event of a contravention of this Section by
“the occupier of a factory, workshop, or place, or by a
“contractor, the occupier, or contractor, shall be liable
“to a fine not exceeding Forty Shillings, and in the
“event of a second or subsequent offence not exceeding
“Five Pounds.”

I must ask you to give your immediate attention to this communication.

I am,

Yours faithfully,

ALFRED GREENWOOD,

Medical Officer of Health.

The result of the above letter was that 37 names of outworkers and contractors were received during the year 1905, and 72 during the year 1906.

This is still unsatisfactory as there is evidence that there are outworkers and contractors employed in the trades previously mentioned in the list, whose names and addresses are not notified by the occupiers as required.

As the employers of outworkers and contractors do not yet appear to recognise that it is compulsory by the Act to send in these lists, it is advisable to consider whether or not it would be desirable to institute legal proceedings against the defaulters.

The addresses of the outworkers and contractors sent in have been visited, and notices sent where any defects were detected.

WORKSHOPS: CAUTION AS TO SPITTING.

Spitting on the floors and walls is liable to cause Consumption and other diseases amongst the workpeople.

Spitting should be avoided whenever possible.

Those obliged to spit should use a piece of paper, which should be at once burned, or if it cannot be burned at once it should be folded up in such a way as not to soil the pocket, and burned as soon as possible.

No paper should be used twice.

Ordinary pocket-handkerchiefs should not be used, since they scatter infection.

ALFRED GREENWOOD,

Medical Officer of Health.

Public Health Office,

51 Ainsworth Street,

Blackburn.

.....

A printed notice of the above character has been left, or renewed where necessary, at nearly all the Workshops where males are employed, and also at the Chip-potato and Fried-fish Saloons, and other food-preparing places.

SANITATION IN HAIRDRESSERS' AND BARBERS' ESTABLISHMENTS.

The Health Committee decided in 1904 that any Hairdresser in the town wishing to have his premises examined might apply to the Medical Officer of Health, and if the same were found satisfactory that he might receive a certificate to that effect.

Only one such application was received during 1906. as compared with two during 1905, and the necessary certificate was given after the required improvements had been carried out.

The various desirable conditions which should exist in these establishments were described fully in my Annual Report for 1904.

Very marked improvements have been effected by engineers in ventilating and humidifying apparatus during recent years.

Every effort is being made by manufacturers to comply with the requirements of the Factory and Workshop Act of 1901, which requires that the air of any room or shed shall not contain more than 9 volumes of CO_2 per 10,000, or not more than 5 volumes over the outside air. It seems quite practicable to conform to this standard, in spite of the suggestion from a Departmental Committee in 1902 that 12 volumes of CO_2 per 10,000 should be allowed when gas is not burning.

So much has been said regarding the ventilation and humidity of weaving sheds that I will confine my remarks on these two points to a few recent developments.

The method of ventilating which is being employed frequently at present in the weaving sheds of Blackburn is a modification of the Plenum system. A 14-inch air propeller is fixed on a beam, with steel trunking fixed above and below the fan. As the air is brought in it strikes a cone-shaped dripper below the fan to distribute the air evenly without draught, in order to prevent condensation.

In winter the incoming air is heated by a copper coil, supplied with steam at high pressure, and fixed inside the trunk. The air leaves the shed by doors and other openings.

Improvements in ventilation are frequently being carried out in other parts of the cotton mill, such as the spinning and carding rooms.

There have also been distinct advances in methods of sizing. The fibre is now sized in an approved scientific manner, so that the size adheres more firmly, and this means less dust, as there is less disintegration of the sizing material.

Under Section 94 of the Factory and Workshop Act of 1901 it is enacted that the water used for the purpose of producing

humidity in every cotton cloth factory shall either be taken from a public supply of drinking water or other source of pure water, or shall be efficiently purified to the satisfaction of the inspector before being introduced in the form of steam into the factory, and all ducts for the introduction of humidified air shall be kept clean.

I believe that the Home Office now allow water to be used for this purpose, the oxygen absorption power of which is not greater than 0.5 grain of oxygen absorbed per gallon. This allows the use of ordinary canal water.

Warmed and ventilated cloak-rooms have been provided in many mills for the use of the weavers, in order that their outer garments may be dry when they go home.

Electric light has replaced gas in many of the mills, and its extension will undoubtedly further diminish impurities in the air of the rooms, while the great improvements in incandescent mantles have made the atmosphere much better in many mills continuing the use of gas.

Since 1903 extensive improvements have been carried out in the sanitary conveniences at many mills in the borough. The cost has ranged from £10 to £500 in single mills. Since the beginning of 1904, 227 water closets have been provided in lieu of privies, old iron trough closets, pails, etc., which frequently communicated directly with the rooms of the mill. The type recommended is the separately trapped, wash-down pedestal w.c., of white glazed earthenware, and automatically flushed. Care is also taken to disconnect the sanitary conveniences from the mill by the provision of an intervening ventilated space. Advantage has been taken of the exceedingly prosperous condition of the cotton industry to get this work carried out.

Corresponding with the improvements in the conditions of work, I have learned from several people who have had much experience that there has been an improvement in the habits and mode of living of cotton operatives in Blackburn.

The home conditions of the people have also improved.

Moreover, there are now distinct improvements locally in the scientific teaching of the various branches of the cotton industry and most successful classes are held at the Blackburn Technical School under the guidance of teachers with high attainments.

The following letter was received during the year :—

Home Office.

Whitehall,

4th October, 1906.

HOMEWORK PROVISIONS OF THE FACTORY ACT.

Sir,

I am directed by the Secretary of State to say, for the information of the Council, that he desires to bring specially before them the question of the enforcement by the Council and their officers of the provisions in the Factory Act which deal with the subject of homework, that is, work in the manufacture, repair, etc., of articles by the worker in his or her own house. Those provisions which are contained in sections 107 to 114 of the Act will be found summarized in the memorandum on the duties of local authorities under the Factory Act which was issued to the Council in December, 1904, and of which further copies can be obtained from Messrs. Wyman and Sons, Fetter Lane, E.C., either directly or through any bookseller.

As the Council are aware, section 132 of the Act requires the Medical Officer of Health to send to the Secretary of State a copy of his annual report to the Council on the administration of the Factory Act in workshops and workplaces. The information with regard to home work contained in the Tables for 1904, supplied by the Home Office for the use of the Medical Officer of Health, has been tabu-

lated, and presented to Parliament as a Return during the present session. A copy of the Return is enclosed for the information of the Council, and the Secretary of State would direct their special attention to the remarks in the introduction to the Return. Not only were the tables often omitted or very imperfectly filled up, but the inference cannot be avoided that in a considerable number of districts little use has been made by the local authorities of their important powers under the Homework provisions.

The Secretary of State would most earnestly press upon the Council the importance, in the interests of the large class of workers engaged in home work, of a thorough administration of those provisions. Outworkers form the weakest section of the labouring class, and the class in respect of which the State from the nature of the circumstances is least able by its officers to control the conditions of work. If these conditions are to be effectively controlled, the local authorities, to whom Parliament has entrusted the duty of supervising them, must make a full use of their powers. The Secretary of State may remind the Council that in addition to the ordinary sanitary inspection under the Public Health Act of outworkers' dwellings, which is even more necessary in their case than in the case of ordinary dwellings, the following special obligations are placed on the Council:—

(1) The lists of outworkers should be duly received from employers and the necessary steps taken to enforce them in case of default.

(2) Addresses of any outworkers in the lists who reside in other districts should be communicated to the Councils of those districts.

(3) Where insanitary conditions or dangerous infectious diseases are found on outworkers' premises, action should be taken if necessary under sections 108, 109, and 110 of the Factory Act which give power to

the Council to prohibit outwork in such premises. For this purpose outworkers' premises should be systematically visited.

(4) The annual report of the Medical Officer should be sent to the Home Office.

The Secretary of State trusts that if in the past any of these duties have been imperfectly fulfilled in the Council's area, steps will be taken to remedy the omission in future.

First, as regards the list of outworkers, the Secretary of State would urge the Council to take every possible step by inspection and otherwise to see that the lists of outworkers are duly kept by employers and copies sent to the Council twice a year as required by the Act. The second list for the current year was due to be sent to the Council on the 1st August. In this connection, he would remind the Council that the requirement in the Act applies not only to occupiers of factories and workshops, but to any person, *e.g.*, contractor, shopkeeper or the like, who gives out work to be done. It follows that if in any case the employer's list shows that work has been given out to a contractor (the prescribed form of list requires the employer to state whether the person to whom work is given out is a workman or contractor) the Council should see that the Contractor *also* furnishes lists of the persons to whom he passes on the work. Further, the attention of the Secretary of State has been called to the fact that in many cases the employers' lists include names and addresses of workers who have long since ceased to be employed. He may point out that the obligation on the employer is to keep lists of the persons in fact employed by him, and the lists should not include any names of persons who have not been employed, say, during the six months previous, *i.e.*, since the last list was due to be sent in. Every possible step should be taken to see that these lists are properly kept by the employers, and in case of default it is always open to the Council to enforce the obligation by legal proceedings.

The information which these lists convey as to the names of the outworkers, the places where they live and work, the character of their employment, and the persons by whom the work is given out to them, is of the greatest importance not only to the local authority in supervising the sanitary conditions under which the work is done, but also to the Factory Inspectors in enforcing (a) the provisions of the Truck Acts (especially those which relate to deductions from the wages of the outworkers for bad work or for materials supplied by their employer) and also (b) those provisions of the Factory Act which (in respect of certain branches of industry) require particulars of the work and wages to be given to the outworkers to enable them to know what sum they will be entitled to receive on taking the work back. These provisions, and the power which the local authority possesses under section 108 of the Factory Act of prohibiting homework in unwholesome premises, constitute the chief statutory protection of this class of workers against "sweating"—but it is impossible to enforce them unless full information as to the names and addresses of the outworkers is available. I may add here that the Secretary of State would gladly welcome the co-operation of the local authority and its officers in calling the attention of the Factory Inspectors to any apparent breach of the Truck Acts or "Particulars" section in the case of outworkers in their district. The notes appended may be of interest to the Council and their officers as showing broadly the irregularities which may be remediable if brought to the notice of the Factory Inspector.

Secondly, the Secretary of State would call the special attention of the Council to their powers under section 108, which was introduced into the Factory Act with the object of preventing industrial work being carried on in dwellings under less wholesome conditions than are required by law in workshops, and thus dealing with some of the worst features of what is known as the "sweating" system. The Return enclosed shows that for the whole of the United Kingdom only 99 notices are recorded as having been issued

under this section, 41 of which are accounted for by the County of Wiltshire alone.

Finally, as regards the preparation of the figures and other information for insertion in the Tables of the Medical Officer of Health. These Tables are the only means by which any exact statistical information as regards the home work of the country can be obtained. The figures if correctly filled in will afford information of the greatest value to the State in dealing with the subject of homework. The preparation of the Return presented to Parliament has shown that in several respects the Tables can be made clearer and simpler. They will accordingly be revised before being issued, as usual, in December, but in the meantime, I am to enclose a form showing the particulars the Secretary of State will ask the Council to furnish at the end of the year through their Medical Officer of Health. Several headings in the previous Tables have been omitted, and one addition of importance has been made. He proposes to ask the Council to classify the information as to lists of outworkers, etc., according to the nature of the business carried on by the employer. The list furnished by the employer to the local authority is required to state this.

The Secretary of State would ask that special care should be taken in compiling the figures regarding the lists of outworkers and the number of outworkers. In some cases in the 1904 Tables, the number of lists was given without the number of outworkers, or *vice versa*. Also, the figures of addresses of outworkers furnished to and received from other local authorities were very defective. For the whole country the totals of these two sets of figures instead of nearly balancing as they should have done, showed a divergence of over 7,000. One very important point is the manner in which the case of an occupier who only furnishes one list in the year instead of two, as required by the Act, should be dealt with in filling up the Tables. The figure asked for in the first two columns of the Table is the total number of lists received and the total number of outworkers included

in the lists. Thus, to take a simple instance, if there are 100 employers in the district giving outwork to, in all, 1,000 outworkers, there should be 200 lists and 2,000 outworkers returned in the Table. If, therefore an occupier has, for whatever reason, only furnished one list, a source of error is introduced which over the whole country largely vitiates the totals. In order that due allowance may be made for this in the compilation of statistics the Council is asked to keep a separate account of occupiers furnishing one list only, and of the outworkers employed by them, and to enter them separately in the third and fourth columns provided for the purpose in the Table.

I am, Sir,

Your obedient Servant,

HENRY CUNYNGHAME.

A. GREENWOOD, ESQ.

*The Medical Officer of Health
for the County Borough of Blackburn.*

It will be seen from the above that in order to carry out effectually the requirements of the Secretary of State the Council should authorise the Medical Officer of Health to adopt the most stringent measures with occupiers who fail or neglect to send in the lists at the specified times of each year.

TABLE XLII.

1906 --NUISANCES REMEDIED.

	Factories	Workplaces	Out Workers and Contractors	Tailors	Dressmakers	Milliners	Cloggers	Bootmakers	Curriers and Saddlers.	Cabinet Makers and Carvers	Joiners and Masons	Bakers, Confectioners and Sugar Boilers	Basket Makers	Black and White Smiths	Blind and Chair Makers	Brushmakers	Chemists and Photographers	Coopers and Coach-builders	Cotton Waste Sorters and Upholsterers	Scale Makers and Cycle Makers	Hosiers, Underclothers and Shirtmakers	Polishers and Picture Framers	Painters and Plumbers	Printers and Paper Bag Makers	Wireworkers and Tinners.	Wheelwrights	Offensive Trades and Marine Stores	Food Preparers	Greengrocers and Fishmongers	Fish & Chip Dealers	Miscellaneous	TOTALS		
Additional W. C.'s Provided	98			1																					1							100		
Separate Sanitary Accommodation Provided for the Sexes				1																													1	
Defective W. C.'s Repaired, Re-placed, or Reconstructed	185	1					1				2																						189	
Water Closets Lighted and Ventilated	3																																3	
Defective Connections and Fittings W. C. Flush Pipe to Pan, Repaired				3																										1			4	
Defective Urinals and Soil Pipes Repaired	28																																28	
Closets Cleansed, Pans Cleansed, Walls and Tops Limewashed				2																														2
Defective Drains (re-laid)		1					1					1																			8		11	
Choked Drains (opened and cleansed)		3		4								1									1		1										11	
Defective Trap Gullies or Dish Stones Replaced		2					1					2																		13			18	
Defective Sink Waste Pipes Repaired (short)			1																										4				5	
Defective Easing Troughs and Downspouts, Repaired		1					1															1								1			4	
Yards and Cellars Re-flagged		1										1																		8			10	
Inside Floors and Yards Badly Flagged or Paved, Repaired				1								3																					4	
Yards and Cellars Cleansed		1																											2	1		4		
Internal Walls and Ceilings of Rooms Limewashed		1		2	3		5					1																					12	
Internal Floors, Windows and Walls of Work Rooms Cleansed				2								1																					3	
Overcrowding in Work Rooms and use of Unsuitable Rooms Abated																											2						2	
Accumulations of Refuse and other Debris Removed		2																									2						20	
Poultry in Work Rooms and Yards Removed											1																						1	
Low Chimneys Raised												1																					1	
Gullies and Drains Removed from Inside							1																										1	
General Repairs not Detailed		3										2																					5	
No. of Defects Found, 499; Remedied, 439	314	16	1	16	3	0	10	0	0	0	3	13	0	0	0	0	0	0	0	0	0	1	1	1	1	1	0	5	0	13	39	1	439	



TABLE XLIII.--SUMMARY OF VISITS DURING 1906.

	January	February	March	April	May	June	July	August	September	October	November	December	Total
Factories.....	2	37	42	67	105	69	98	52	89	68	81	38	748
Workshops.....	3	260	20	15	14	8	5	7	7	4	20	78	441
Workplaces.....	1	2	8	3	1	5	2	...	4	...	...	4	30
Outworkers.....	...	9	...	...	...	...	...	63	...	...	...	...	72
Offensive Trades.....	...	...	7	3	2	2	...	...	...	...	6	5	25
Complaints—Nuisances Investigated.....	3	5	4	4	6	6	3	2	8	8	9	21	79
Greengrocers.....	...	...	92	...	...	1	...	...	...	...	...	...	93
Food-preparing and Storing Places.....	...	2	23	13	...	3	6	...	...	...	...	...	47
Work in Progress.....	..	10	48	80	97	73	102	45	86	61	66	50	718
Drains Tested.....	2	7	5	25	26	26	36	26	29	5	12	4	203
Total.....	11	332	249	210	251	193	252	195	223	146	194	200	2456

Table XLIV.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32				
	Factories.	Workplaces.	Outw'ks & Ctrcs.	Tailors.	Dressmakers.	Milliners.	Cloggers.	Bootmakers.	Cutters & Saddlers.	Cabinet Makers and Carvers.	Joiners & Masons and Sugar Rollers.	Bakers, Confectioners, and Basketmakers.	Black & White Smiths and Chairmakers.	Brushmakers.	Chemists and Photographers.	Coopers and Coachbuilders.	Cotton Waste Sorters and Upholsters.	Cycle Makers and Hosters, Under-clothers, Shirtmakers.	Polishers and Picture Framers.	Painters & Plumbers.	Bag Makers and Paper Makers.	Wirew'ks & Tinners.	Wheelertrights.	Offensive Trades and Marine Stores.	Food Preparers.	Green Grocers and Fishmongers.	Fish & Chip Potatoes Dealers.	Miscellaneous.	Total.							
No. of Workshops on Register	..	..	59	68	127	40	86	77	11	34	42	128	4	23	7	14	5	7	8	5	41	12	31	4	14	11	21	16	..	..	..	27	922		
No. of Rooms .....	..	..	59	103	153	44	100	88	16	52	45	146	4	28	13	24	9	11	9	9	54	17	35	5	14	20	44	31	..	..	..	35	1168		
No. of Underground Rooms ..	..	..	..	..	..	2	9	12	1	..	7	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	47	
Avg No. of Males employed	..	..	22	300	..	..	176	177	70	145	126	120	12	89	17	49	20	22	16	18	6	35	63	3	45	56	73	60	..	..	..	63	1781		
Avg. No. of Females employed	..	..	36	84	463	130	..	..	..	..	156	..	..	..	..	..	..	..	..	..	180	..	23	..	..	..	..	..	..	..	..	8	1104		
No. employing both sexes ..	..	..	11	38	..	..	..	..	..	..	10	..	..	..	..	..	..	..	..	..	3	..	2	..	..	..	..	..	..	..	..	..	3	73	
No. of rooms badly lighted ..	..	..	..	53	89	29	20	31	..	29	24	70	2	16	6	16	4	8	5	1	30	11	18	3	24	10	29	16	..	..	..	22	566		
No. unsuitable .....	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	
No. require lime-washing or cleansing	1	..	..	2	4	..	5	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	14	
No. of dirty floors or windows	2	..	..	2	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	
No. of yards and cellars dirty	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
No. of yards and floor surfaces in bad repair	1	..	..	1	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13
No. of drains defective	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	13
No. of Drains blocked	3	..	..	4	..	..	2	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	11
No. of insufficient downspouts and defective drainage	1	1	8
No. of defective slop pipes ..	1	..	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4
No. of defective gullies & dish stones.	2	..	..	1	1	..	1	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	19
No. of gullies & drains inside places ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1

SUMMARY OF WORK REQUIRED AT FACTORIES.

TABLE XLV.

Notices issued during 1905 ; attended to during 1906.

Inspection Book No. 1906	Factory situated at	Additional Conveniences Required	Result		Existing insanitary closets	Converted to modern water-closets	Defective urinals	Replaced or repaired	No. sanitary conveniences to be disconnecte from workroom	
			No. W.C.'s provided	No. not provided					Done	Not done
200	Higher Audley street	5	...	5	16 troughs and privy	...	...	...	...	...
199	Cumpsey street	3	...	3	6 troughs	...	1	...	...	9
198	Eleanor street	4	...	4	7 troughs	...	...	...	...	...
198	Albert street, Mill Hill	3	2	...	...	...	...	...	...	...
198	Commercial street ...	6	6	...	3 troughs	3 peds.	1	1	...	...
198	Simmons street	2	2	...	...	...	...	...	...	...
197	Manner Sutton street	...	...	...	12 troughs	14 peds.	...	...	...	...
197	Mincing lane .....	...	...	...	...	...	...	...	...	...
197	Walpole street.....	2	2	...	7 troughs	7 peds.	1	1	9	...
197	Lucknow street	1	1	...	6 troughs	6 peds.	1	1	7	...
197	Byrom street .....	...	...	...	5 privies	5 peds.	1	1	5	...
196	Mincing lane .....	...	...	...	2 pails	2 peds.	...	...	...	...
196	Royshaw	1	..	1	...	...	...	...	...	...
196	Duke street	3	3	...	...	...	...	...	...	...
195	Hall street	1	1	...	5 s. hop. 2 troughs	7 peds	1	1	...	...
195	Lower Hollin Bank street	3	...	3	4 troughs	...	1	...	...	...
195	Mill Hill	5	5	...	2 pails	2 peds.	...	...	7	...
195	Mill Hill .....	...	...	...	4 pails	5 peds.	1	1	5	...
195	Mill Hill .....	...	...	...	5 privy	...	...	...	...	...

TABLE XLV.—*Continued.*

Notices issued during 1905 ; attended to during 1906.

Factory situated at	Additional Conveniences required.	Result		Existing insanitary closets	Converted to modern water-closets	Defective urinals	Replaced or repaired	No. sanitary conveniences to be disconnected from workroom	
		No. W.C.'s provided	No. not provided					Done	Not done
Forrest street	1	1	...	...	...	...	...	...	...
Exchange street .....	...	...	...	1 s. hop. ^s	1 ped.	...	...	...	...
Whalley New road...	4	...	4	5 troughs	...	1	...	...	5
Whalley New road ...	...	...	...	2 s.h., 4 t. and 1 pail	...	1	...	...	2
Cobden street	1	1	...	...	...	...	...	...	...
Nab lane	2	2	...	...	...	...	...	...	...
Dickinson street	1	1	...	5 troughs	5 ped.	1	1	...	...
Paradise street.....	...	...	...	...	...	...	..	...	...
Larkhill street	1	1	...	...	...	...	...	...	...
Apple street	3	6	...	...	...	...	...	...	...
27 Factories	51	34	20	104	57	11	7	33	16

The above relates to work outstanding at the end of 1905 and remedied during 1906.

SUMMARY OF WORK REQUIRED AT FACTORIES.

TABLE XLVI.—Notices issued during 1906.

Inspection Book Folio 1906.	Factory situated at	Additional Conveniences required	Result		Existing insanitary closets	Converted to modern water-closets*	Defective urinals	Replaced or repaired	No. sanit conveni to be disconn from workroc	
			No. W.C.'s provided	No. not provided					Done	d
1	Quarry street	3	...	3	...	...	...	...	...	...
1	Swallow street.....	6	6	...	...	...	1	1	2	...
1	Harley street	2	2	...	...	...	...	...	...	...
1	Ward street	6	...	6	...	...	...	...	...	...
2	Stanley street	3	...	3	1 pan w.c.	...	...	...	...	...
2	Oak street	1	...	1	4 pails	...	...	...	...	...
2	Kay street.....	2	2	...	4 troughs	4 ped. w.c.	...	...	2	...
2	Black Diamond street	3	3	...	10 troughs	10 ditto	2	2	13	...
3	Hollin Bank.....	5	7	...	6 tank	...	...	...	...	...
3	Mary street	3	...	3	9 troughs	...	...	...	...	...
3	Mill Hill	3	3	...	...	...	...	...	...	...
3	Albert st., Mill Hill	3	3	...	4 troughs	4 peds.	1	1	...	...
3	Moorgate street	3	3	...	8 troughs	8 peds.	1	1	...	...
4	Witton	3	3	...	6 privy	6 peds.	1	1	...	...
4	Livesey.....	4	4	...	10 privy	10 peds.	...	...	...	...
4	Livesey.....	...	...	...	20 troughs	20 ped-.	2	2	...	...
4	St. Peter street .....	..	...	...	...	...	...	...	...	...
4	Mincing lane .....	...	...	...	...	...	...	...	...	...
4	Lancaster street .....	...	...	...	3 troughs	7 peds.	...	...	1	...
4	Lancaster street .....	...	...	...	...	...	...	...	...	...
5	Moorgate street .....	...	1	...	1 s. hop.	1 ped.	1	1	...	...

TABLE XLVI.—Summary of Work required at Factories (continued).

Inspection Book Folio 1906	Factory situated at	Additional Conveniences required	Result		Existing insanitary closets	Converted to modern water-closets	Defective* urinals	Replaced or repaired	No. sanitary conveniences to be disconnected from workroom	
			No. W.C.'s provided	No. not provided					Done	Not done
5	Cobden street	2	...	2	4 troughs	...	...	...	...	...
5	Montague street .....	...	...	...	...	...	...	...	...	...
5	Simmons street .....	...	...	...	...	...	...	...	...	...
6	Dickens street.....	1	1	...	17 troughs	17 peds.	3	3	18	...
6	Dickens street	4	4	...	21 troughs	21 peds.	3	3	21	...
6	Dickens street .....	...	...	...	4 s. hop.	4 peds.	..	...	4	...
6	Randal street .....	...	...	...	...	...	...	...	...	...
6	Park Road .....	...	...	...	...	...	...	...	1	1
7	Witton .....	...	...	...	...	...	...	...	6	...
7	Little Peel street ...	2	3	..	10 troughs	10 peds.	1	1	...	...
7	Eanam	2	...	...	6 troughs	...	1	...	...	...
8	Knuzden .....	...	...	...	...	...	...	...	1	...
8	Bank Top.....	6	7	...	6 troughs	6 peds.	4	4	...	...
8	Cumpstey street .....	...	...	...	...	...	...	...	...	...
8	Brookhouse	5	6	...	...	...	...	...	...	...
9	Audley Range	2	1	1	6 troughs	...	1	1	6	...
9	Garden street	3	3	...	...	...	...	...	...	...
9	Walpole street	1	1	...	...	...	...	...	...	...
9	Simmons street .....	...	...	...	...	...	...	...	...	...
9	Mincing lane .....	...	...	...	...	...	...	...	...	...
10	Blakey street .....	...	...	...	...	...	...	...	...	...
10	Mincing lane .....	...	...	...	...	...	...	...	1	1
10	High street .....	...	...	...	...	...	...	...	1	...
10	Greaves street	1	...	1	...	...	...	...	...	...

TABLE XLVI.—Summary of Work required at Factories (continued).

Inspection Book Folio 1906	Factory situated at	Additional Conveniences Required	Result		Existing insanitary closets	Converted to modern water-closets	Defective urinals	Replaced or repaired	No. sani- convenien- to be disconnec- from workroc	
			No. W.C.'s provided	No. not provided					Done	rd
10	Paterson street.....	5	...	5	6 troughs	...	1	...	...
11	Dewhurst street	1	1	...	...	...	1	1	...	
11	Grimshaw Park .....	...	...	...	...	...	...	...	...
11	Logwood street .....	...	...	...	3 pails	...	1	...	...
11	Eden street	2	...	2	11 troughs	...	1	...	...
12	Willow street	4	..	4	8 troughs	...	1	...	...
12	George street west ...	6	...	6	5 troughs	...	1	...	...
12	Peel street	1	...	1	10 troughs	...	1	..	...
13	Infirmary street	3	...	3	5 troughs	...	1	...	...
13	Infirmary street .....	...	...	...	1 s. hop.	...	...	...	...
13	Infirmary street .....	...	...	...	1 pail	...	...	...	...
13	Kent street	1	...	1	10 troughs	...	2	...	...
14	Foundry Hill .....	...	...	...	3 troughs	...	1	...	...
	52 Factories	102	64	42	213	128	33	21	77	8

TABLE XLVII.

Copy of Table sent to the Home Office at the request of the Secretary of State.

ANNUAL REPORT OF THE MEDICAL OFFICER OF HEALTH FOR
1906 for the County Borough of Blackburn.

Factories, Workshops, Laundries, Workplaces, and Homework.

1.—Inspection.

Including Inspections made by Sanitary Inspectors or Inspectors of Nuisances

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions
Factories (including Factory Laundries) ..	748	52	...
Workshops (including Workshop Laundries) ..	441	} 86	...
Workplaces (other than Outworkers' Premises included in Part 3 of this Table)	30		...
Total	1219	138	...

2.—Defects Found.

Particulars.	No. of defects.			No. of Prosec't'ns
	Found	Remedied	R'ferred to H.M. Inspector	
<i>Nuisances under the Public Health Acts—</i>				
Want of cleanliness	14	12	...	...
Want of ventilation .. .. .	...	...	...	...
Overcrowding .. .. .	...	...	...	...
Want of drainage of floors .. .. .	...	...	...	...
Other nuisances .. .. .	...	...	...	...
Sanitary accommodations { insufficient } 1906 { 51 46	} 267	159	...	...
{ unsuitable or defective			...	...
{ not separate for sexes }			2	1
<i>Offences under the Factory and Workshop Act—</i>				
Illegal occupation of underground bakehouse... (S. 101) .. .. .	...	...	...	...
Breach of special sanitary requirements for bakehouses (SS. 97 to 100)	1	1	...	..
Other offences... .. . (Excluding offences relating to outwork which are included in Part 3 of this Table)...	...	...	...	...
Total	441	285	...	...

TABLE XLVII.—*continued.*

3.—HOME WORK.

NATURE OF WORK.	OUTWORKERS' LISTS, SECTION 107.										Number of Inspections of Outworkers' premises. (10)	
	Lists received from Employers.					Numbers of Addresses of		Prosecutions.		Number of Inspections of Outworkers' premises. (10)		
	Twice in the year.		Once in the year.			Outworkers received from other Councils.	Outworkers forwarded to other Councils.	Failing to keep or permit inspection of lists.	Failing to send lists.			
	Lists. (2)	Outworkers (3)	Lists. (4)	Outworkers (5)	Outworkers (5)	(5)	(7)	(8)	(9)			
Wearing Apparel—												
(1) making, &c.	6	18	25	54	1	2					72	
(2) cleaning and washing												
Total	6	18	25	54	1	2					72	

TABLE XLVII.—*continued.*

4.—REGISTERED WORKSHOPS.

Workshops on the Register (s. 131) at the end of the year.....		
Important classes of workshops, such as work shop bake-houses, may be enumerated here.	Various Trades	725
	Workshop Bakehouses.....	75
	Not including the Domestic Retail Bakehouses (63)...	
Total number of Workshops on Register		800

5. - OTHER MATTERS.

Class.	Number.
Matters notified to H.M. Inspector of Factories :—	
Failure to affix Abstract of the Factory and Workshop Act (s. 133) .....	...
Action taken in matters referred by H.M. Inspector as remediable under the Public Health Acts, but not under the Factory & Workshop Act (s. 5)	67
Notified by H.M. Inspector	
Report (of action taken) sent to H.M. Inspector	51
Other .....	...
Underground Bakehouses (s. 101) :—	
Certificates granted during the year	
In use at the end of the year	6

COTTON OPERATIVES' MORTALITY STATISTICS.

The following Tables show the death-rates amongst those persons engaged in the Cotton Industry of Blackburn for several years, 1897 to 1905, and also for the year 1906. The rates for the years 1893 to 1896 have been calculated from the 1891 census figures. The rates for the years 1897 to 1901 have been calculated from the 1901 census figures, including those operatives who were formerly in the cotton trade but who had retired.

The rates for the years 1902 to 1906 have been calculated from the 1901 census figures also, but with the addition of those cotton operatives who were included with the extension of the Borough in 1901.

The compilation of these statistics year by year is proving of great value in enabling one to draw certain conclusions based upon the observations of a considerable number of years.

The age-periods in these Tables represent the five decades from 15 to 65 years, and the period "65 years and upwards."

The most useful figures are those given in the various decades from 15 to 65 years, since in the age-period "65 years and upwards" the number of deaths is large, owing to the inclusion of retired cotton operatives. This affects males more than females.

All the figures have been revised and corrected since the year 1889.

In the following figures the cotton operatives have been divided into these four groups:—

- I. Weavers.
- II. Spinners.
- III. Winders, Warpers, etc.
- IV. Cardroom-hands.

Also the deaths and death-rates have been calculated from three points of view, namely :—

- (a) Death-rates for 1906 compared with death-rates for the years 1889 to 1906.
- (b) Phthisis death-rates for 1906, compared with Phthisis death-rates for the years 1889 to 1906.
- (c) Death-rates from Other Respiratory Diseases for 1906, compared with the death-rates from Other Respiratory Diseases for the years 1889 to 1906.

In comparing Table LI. with Table LVII., it will be seen that the year 1906 represents a favourable record against the years 1889 to 1906.

A comparison between Tables LIII. and LIX. shows that the improvement in the Phthisis death-rate amongst the Cotton Operatives is being maintained.

Tables I.V. and LXI. respectively show a similar improvement in the death-rates from Respiratory Diseases other than Phthisis amongst the Cotton Operatives of Blackburn.

TABLE XLVIII.—DEATHS OF MALE AND FEMALE WEAVERS FOR THE YEARS 1897—1906.

Age Periods.	1897		1898		1899		1900		1901		1902		1903		1904		1905		1906		TOTAL.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
15 to 25	17	28	8	22	32	17	7	23	12	23	8	21	7	20	8	16	8	14	10	26	117	210
25 to 35	12	13	10	16	11	20	10	23	7	25	12	10	9	18	2	12	9	19	6	15	88	171
35 to 45	9	11	14	22	28	11	9	16	12	14	11	15	8	11	6	13	10	17	5	16	112	146
45 to 55	7	3	18	7	24	4	15	4	7	6	13	10	14	6	14	11	9	7	11	12	132	70
55 to 65	14	1	18	6	16	5	15	10	17	5	16	7	14	4	25	4	14	7	10	10	159	59
65 and upwards.	20	—	17	2	47	4	34	6	27	6	22	8	21	6	19	5	30	7	34	4	271	48

TABLE XLIX.—DEATH RATES OF MALE AND FEMALE WEAVERS FOR THE YEARS 1897—1906.

Age Periods.	1897		1898		1899		1900		1901		1902		1903		1904		1905		1906		TOTAL.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
15 to 25...	59	38	27	30	11	11	23	24	31	31	27	28	24	27	27	21	27	19	34	35	40	28
25 to 35...	66	30	55	37	60	46	55	53	38	57	65	22	49	41	27	27	49	43	32	34	47	39
35 to 45...	71	52	11	10	22	33	52	71	93	66	86	70	63	51	47	61	73	79	39	75	87	68
45 to 55...	100	42	25	9	34	33	56	21	100	84	18	14	19	84	19	15	12	98	15	16	18	98
55 to 65...	32	34	41	5	36	9	23	46	39	23	36	31	32	18	57	18	32	31	23	45	36	27
65 & upds.	108	6	92	20	25	54	40	18	14	60	11	80	11	60	10	50	16	70	18	40	14	48

The following rates have been worked from the 1901 Census figures, including the retired operatives and those operatives who came in with the extension of the Borough in 1901

TABLE L.—DEATHS DURING 1906.

Age Periods.	Weavers	Spinners.	Warpers, Winders, &c.	Card Room Hands	Borough.
15 to 25	36	4	7	2	101
25 to 35	21	3	11	2	100
35 to 45	21	1	5	2	154
45 to 55	23	10	4	2	219
55 to 65	20	5	4	3	277
65 and upwards ...	38	14	2	3	475
Total	159	37	33	14	1326

TABLE LI.—DEATH RATES for 1906.

Age Periods.	Weavers.	Spinners.	Warpers, Winders, &c.	Card Room Hands	Borough.
15 to 25	3.5	6.1	2.8	3.0	3.7
25 to 35	3.3	7.2	6.5	4.6	4.6
35 to 45	6.1	1.9	4.6	4.4	8.9
45 to 55	16.2	29.4	6.7	9.5	18.3
55 to 65	30.6	34.2	18.9	39.4	38.4
65 and upwards ...	133.8	166.6	21.5	71.4	112.3
All Ages over 15 Years	7.1	17.1	5.4	7.5	14.9

TABLE LII.—PHTHISIS, 1906.
DEATHS.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	15	...	3	...	27
25 to 35.....	5	...	5	2	29
35 to 45.....	1	...	2	...	27
45 to 55.....	1	3	...	...	18
55 to 65.....	...	...	...	...	8
65 and upwards.....	...	...	...	...	2
Total.....	22	3	10	2	III

TABLE LIII.—DEATH RATES FOR 1906.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	1·4	0·0	1·2	0·0	1·0
25 to 35.....	0·8	0·0	2·9	4·6	1·3
35 to 45.....	0·2	0·0	1·8	0·0	1·5
45 to 55.....	0·7	8·8	0·0	0·0	1·5
55 to 65.....	0·0	0·0	0·0	0·0	1·1
65 and upwards.....	0·0	0·0	0·0	0·0	0·4
All Ages over 15 years...	0·9	1·3	1·6	1·0	1·2

TABLE LIV.—RESPIRATORY DISEASES OTHER
THAN PHTHISIS, 1906

DEATHS.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, etc.	Card Room Hands.	Borough.
15 to 25	1	1	0	0	12
25 to 35	0	0	1	0	10
35 to 45	2	0	2	0	27
45 to 55	2	1	0	0	25
55 to 65	6	3	1	0	65
65 and upwards.....	5	3	0	0	99
Total	16	8	4	0	238

TABLE LV.—DEATH RATES for 1906.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, etc.	Card Room Hands.	Borough.
15 to 25	0·09	1·5	0·0	0·0	0·4
25 to 35	0·0	0·0	0·5	0·0	0·4
35 to 45	0·5	0·0	1·8	0·0	1·5
45 to 55	1·4	2·9	0·0	0·0	2·0
55 to 65	4·1	20·5	4·7	0·0	9·0
65 and upwards	17·6	35·7	0·0	0·0	23·6
All ages over 15 years ...	0·7	3·6	0·6	0·0	2·6

TABLE LVI.—DEATHS from all causes from
1889 to 1906.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	677	68	184	38	2013
25 to 35	491	85	187	46	2408
35 to 45.....	481	96	159	65	3443
45 to 55	351	130	151	66	4166
55 to 65.....	419	113	103	36	5256
65 & upwards.....	512	207	146	33	7454
Total	2931	699	930	284	24740

TABLE LVII.—AVERAGE DEATH RATES 1889 to 1906.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	3·6	5·7	4·1	3·2	4·2
25 to 35	4·4	11·3	6·1	5·9	6·2
35 to 45.....	7·8	10·2	8·2	8·1	11·0
45 to 55.....	13·7	21·2	14·0	17·5	19·4
55 to 65	35·6	42·9	27·1	26·3	40·5
65 & upwards.....	100·1	136·9	87·2	43·6	97·9
All Ages over 15 Years	7·3	17·9	8·4	8·5	15·4

TABLE I.VIII.—PHTHISIS, 1889—1906.
DEATHS.

Age Periods.	Weavers.	Spinners	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	200	16	57	10	529
25 to 35.....	153	26	68	19	551
35 to 45.....	102	24	26	16	623
45 to 55.....	42	14	11	10	369
55 to 65.....	26	2	3	1	171
65 and upwards	3	2	3	0	40
Total	526	84	168	56	2283

TABLE LIX.—AVERAGE DEATH RATES,
1889 TO 1906.

Age Periods.	Weavers.	Spinners.	Winders, Warpers, &c.	Card Room Hands	Borough.
15 to 25.....	1'0	1'3	1'3	0'8	1'1
25 to 35.....	1'3	3'4	2'2	2'4	1'4
35 to 45.....	1'6	2'5	1'3	1'9	2'0
45 to 55... ..	1'6	2'2	1'0	2'6	1'7
55 to 65.....	2'2	0'7	0'7	0'7	1'3
65 and upwards.....	0'5	1'3	1'7	0'0	0'5
All Ages over 15 years	1'3	2'1	1'5	1'6	1'4

TABLE LX.—RESPIRATORY DISEASES OTHER
THAN PHTHISIS, 1889-1906.
DEATHS.

Age Periods.	Weavers	Spinners	Winders, Warpers, etc.	Card Room Hands.	Borough
15 to 25.....	70	11	27	4	316
25 to 35.....	66	20	16	5	418
35 to 45.....	91	19	39	11	750
45 to 55.....	110	38	39	26	1165
55 to 65.....	144	47	30	8	1636
65 and upwards.....	126	56	38	13	2043
Total.....	607	191	189	67	6328

TABLE LXI.—AVERAGE DEATH RATES
1889—1906.

Age Periods.	Weavers	Spinners	Winders, Warpers, etc.	Card Room Hands	Borough
15 to 25.....	0·3	0·9	0·6	0·3	0·6
25 to 35.....	0·5	2·6	0·5	0·6	1·0
35 to 45.....	1·4	2·0	2·0	1·3	2·4
45 to 55.....	4·3	6·2	3·6	6·9	5·4
55 to 65.....	12·2	17·8	7·8	5·8	12·6
65 and upwards.....	24·6	37·0	22·7	17·2	26·8
All ages over 15 years ...	1·5	4·9	1·7	2·0	3·9

It is now possible for the first time to compare the death-rates of various workers in the cotton mills of Blackburn in detail for a complete period of fifteen years, namely, from 1891 to 1905 inclusive. As a whole, Medical Officers of Health have not availed themselves of opportunities for calculating the effect of various trades on the health of the workers in this way. Much excellent work still remains to be done along the line of occupational statistics.

I have divided the fifteen years 1891 to 1905 into three quinquennial periods, namely, 1891 to 1895, 1896 to 1900, and 1901 to 1905. The death-rates in the first period have been calculated from the 1891 census, and in the third period from the 1901 census figures. In the second of these quinquennial periods, that is, from 1895 to 1900, the death-rates have been calculated on populations in the respective age-periods obtained from the mean of the 1891 and 1901 census figures. It is especially in an inquiry of this kind that a quinquennial census would be of the utmost value; but it has been recommended so often by leading Medical Officers of Health throughout the country, that one despairs of this important measure ever becoming law.

Instances of the difficulties caused by the long intercensal period at present existing are numerous. For example, in estimating the annual death-rates at Blackburn, between the ages of 15 and 25, amongst the various classes of cotton operatives from 1891 to 1900, the 1891 census figures must be used for each of those years. After the 1901 census the average of the two census populations may be taken, but it is not possible to obtain the exact number of weavers at each age-period every year. Again, in the period 1889 to 1904 the death-rate from all causes amongst spinners was 12 per 1,000, and the total number of deaths at ages 25 to 35 was 80. The annual rate, however, for most of the individual years has generally been from 6 to 8 amongst spinners at ages 25 to 35, but the rate seems to have increased in later years.

This apparent increase may be due to the fact that the number exposed to risk has been calculated at too low a figure;

for during the period 1889 to 1894 (six years), there were actually 37 deaths among spinners at ages 25 to 35, while from 1895 to 1905 (eleven years) there were 45 deaths. A study of the two census tables 1891 and 1901 shows that while in 1891 there were 806 spinners at ages 25 to 35, in 1901 there were only 415 spinners at that age. In other words, there seems to have been a rapid decrease in the number of spinners at this age, which may possibly be due to certain changes in the methods of spinning. A quinquennial census would obviate difficulties of this kind to a great extent.

Also there is a difficulty in dealing with retired cotton operatives. District registrars should ascertain more carefully the length of time a deceased cotton operative had not followed his occupation before death, so that a more accurate classification might be obtained. The figures for the age-period "65 and upwards" are of less value than those for the other age-periods. Also the figures referring to weavers are more valuable than those referring to the other classes of cotton operatives, since they deal with much larger numbers.

I have prepared six tables as follows:—

Table LXII. indicates the populations at the 1891 and 1901 census years, and also the mean between these two. All have been grouped in the age-periods of 10 years, and also have been divided into the four main groups of cotton operatives, namely: weavers, spinners, winders and warpers, and cardroom-hands. A comparison may be made between these numbers and the total populations of the borough at the same age-periods.

Table LXIII. shows the distribution of weavers according to sex for the same periods.

Table LXIV. shows the average death-rates amongst the above four groups of cotton operatives in three quinquennial periods from 1891 to 1905, and also a comparison with the average deaths for the whole of the borough during the same periods. The only figures which I have employed for detailed conclusions

are those relating to weavers, as the figures for the other branches of the cotton industry are still somewhat small for anything except a general conclusion.

Table LXV. shows the average death-rates amongst male and female weavers from 1891 to 1905, and a chart accompanies this table.

Tables LXVI. and *LXVII.* indicate respectively the deaths and death-rates from phthisis and other respiratory diseases amongst weavers from 1891 to 1905. Charts also accompany these tables.

TABLE LXII.—Populations at 1891 Census.

Age-Periods.	Weavers.	Spinners.	Winders and Warpers.	Card-room Hands.	Borough.
15-25 ...	10176	769	2261	516	23621
25-35 ...	5467	806	1531	581	19739
35-45 ...	2625	499	863	368	14299
45-55 ...	1253	216	387	184	10076
55-65 ...	436	145	141	58	6038
65 and upwards	125	46	46	13	3521

Mean Populations between 1891 Census and 1901 Census (not including the extension of November, 1901), but including the retired operatives taken at the 1901 Census.

Age-Periods.	Weavers.	Spinners.	Winders and Warpers.	Card-room Hands.	Borough.
15-25 ...	10130	705	2340	575	25000
25-35 ...	5799	607	1600	500	20461
35-45 ...	2994	508	964	402	15700
45-55 ...	1329	274	489	196	10926
55-65 ...	543	145	174	67	6531
65 and upwards	204	64	69	27	3857

Populations at 1901 Census, including retired operatives, taken at 1901 Census, and the extension of November, 1901.

Age-Periods.	Weavers.	Spinners.	Winders and Warpers.	Card-room Hands.	Borough.
15-25 ...	10213	655	2442	647	26693
25-35 ...	6202	416	1692	433	21451
35-45 ...	3394	522	1075	446	17296
45-55 ...	1418	340	596	209	11908
55-65 ...	653	146	211	76	7197
65 and upwards	284	84	93	42	4228

TABLE LXIII—Population of Male and Female Weavers
at the 1891 Census.

Age-Periods.	Males.	Females.
15-25	3472	6704
25-35	1669	3798
35-45	983	1642
45-55	617	636
55-65	272	164
65 and upwards ...	101	24

Mean Population of Male and Female Weavers between 1891
Census and 1901 Census (not including extension of Nov-
ember, 1901), but including the retired Weavers taken at
1901 Census.

Age-Periods	Males.	Females.
15-25	3170	6960
25-35	1737	4062
35-45	1117	1877
45-55	658	671
55-65	352	190
65 and upwards ..	142	62

Population of Male and Female Weavers at the 1901 Census
(including the retired Weavers and the extension of Nov-
ember, 1901.)

Age-Periods.	Males.	Females.
15-25	2900	7313
25-35	1832	4370
35-45	1266	2128
45-55	708	710
55-65	434	219
65 and upwards ...	184	100

TABLE LXIV.—Average Death-Rates amongst Cotton Operatives
for the Years 1891—1895.

Age-Period	Weavers	Spinners	Winders and Warpers	Cardroom Hands	Average Death Rate for whole of Borough
15-25 ...	4.3	7.5	4.8	4.2	4.9
25-35 ...	6.4	7.7	8.6	7.9	7.1
35-45 ...	11.9	13.2	12.5	12.5	14.2
45-55 ...	14.0	34.2	25.8	21.7	23.7
55-65 ...	53.2	48.2	42.5	34.5	48.5
65 and upwards	187.2	278.2	186.9	230.7	113.5

1896—1900.

15-25 ...	3.7	3.7	5.4	3.1	4.2
25-35 ...	4.9	7.2	6.1	4.0	6.3
35-45 ..	9.6	10.2	10.8	7.9	12.3
45-55 ...	15.3	23.3	21.6	16.3	20.0
55-65 ...	38.6	23.4	35.6	23.9	45.0
65 and upwards	155.9	193.7	139.1	37.0	107.3

1901—1905.

15-25 ...	2.7	2.7	2.6	2.8	3.7
25-35 ...	3.9	7.7	4.7	2.3	5.6
35-45 ...	6.9	6.9	5.9	5.8	9.5
44-55 ...	13.7	22.3	10.7	16.2	19.2
55-65 .	34.6	42.4	20.8	15.8	38.9
65 and upwards	106.3	121.4	55.9	19.0	100.7

TABLE LXV.—Average Death-Rates of Male and Female Weavers
for the Years 1891—1895.

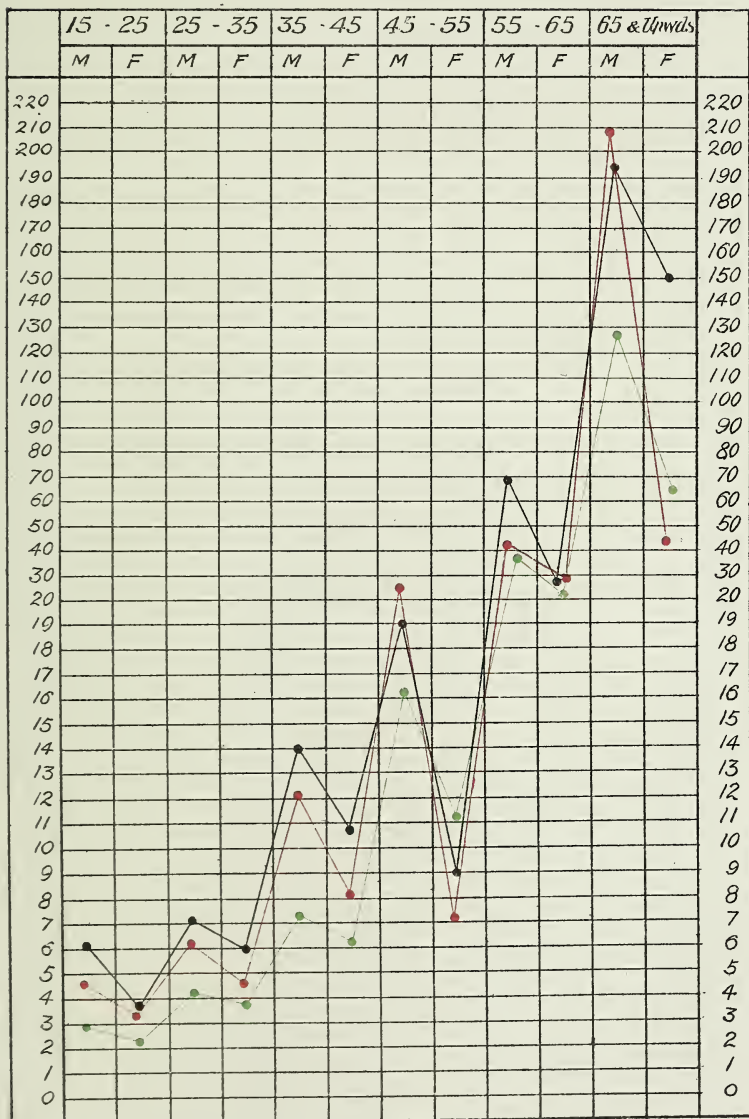
Age Periods.	Males.	Females.
15-25	6·1	3·4
25-35	7·3	6·0
35-45	14·0	10·7
45-55	19·1	9·1
55-65	69·1	26·8
65 and upwards ...	196·0	150 0

1896—1900.		
Age Periods.	Males.	Females.
15-25	4·6	3·3
25-35	6·2	4·3
35-45	12·1	8·1
45-55	23·7	7·1
55-65	43·7	29·4
65 and upwards ...	204·2	45·1

1901—1905.		
Age Periods.	Males.	Females.
15-25	2·9	2·5
25-35	4·2	3·8
35 45	7·4	6·5
45-55	16 1	11·2
55-65	39·6	24·6
65 and upwards ...	129·3	64·0

CHART 5.

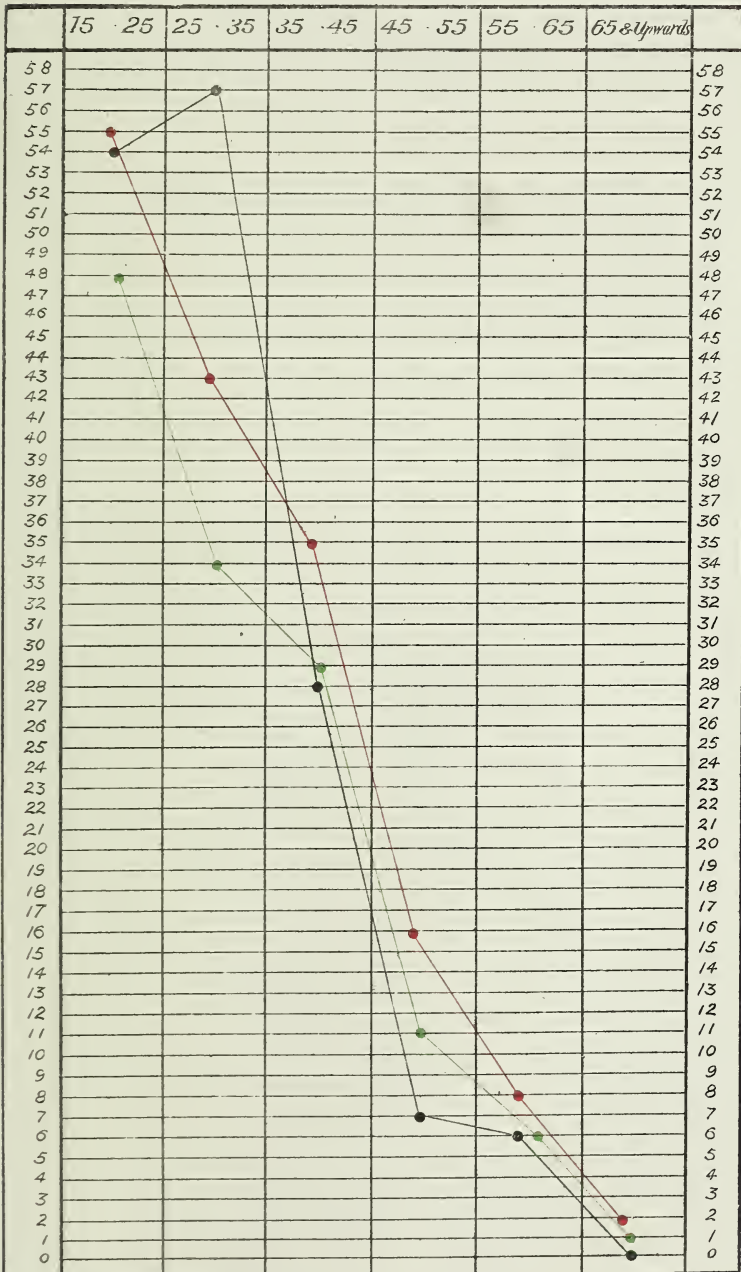
Shewing Death Rates of Male and Female Weavers
from 1891—1905, in 5 year periods.



Black indicates period 1891-1895
Red indicates period 1896-1900
Green indicates period 1901-1905

CHART 6.

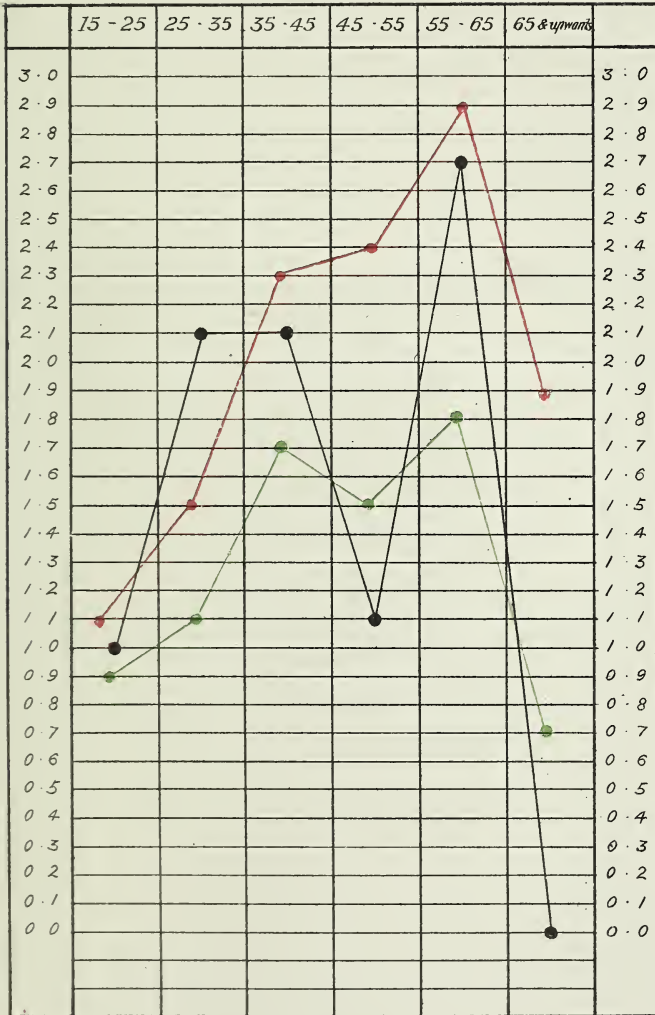
Deaths from Phthisis amongst Weavers from 1891—1905,
in 5 year periods.



Black indicates period 1891-1896
Red indicates period 1896-1900
Green indicates period 1901-1905

CHART 7.

Average Death Rates from Phthisis amongst Weavers from 1891—1905, in 5 year periods.



Black indicates period 1891-1895.

Red indicates period 1896-1900

Green indicates period 1901-1905

TABLE LXVI.—Numbers and Average Death-Rates from Phthisis amongst Weavers during the last three Quinquennial Periods.

1891—1895.

Age-Periods.	Number.	Death-Rate.	Average Phthisis Death-Rate for the Borough.
15-25	54	1.0	1.1
25-35	57	2.1	1.9
35-45	28	2.1	2.4
45-55	7	1.1	1.9
55-65	6	2.7	1.5
65 and upwards ..	0	0.0	0.7

1896—1900.

15-25	55	1.1	1.1
25-35	43	1.5	1.6
35-45	35	2.3	2.5
45-55	16	2.4	2.0
55-65	8	2.9	1.8
65 and upwards ..	2	1.9	0.6

1901 1905.

15-25	48	0.9	1.0
25-35	34	1.1	1.4
35-45	29	1.7	1.8
45-55	11	1.5	1.8
55-65	6	1.8	1.1
65 and upwards ..	1	0.7	0.6

TABLE LXVII.

Numbers and Average Death-Rates from Respiratory Diseases other than Phthisis, amongst Weavers during the last three Quinquennial Periods.

1891-1895.

Age-Periods.	Number.	Death-Rate.	Average Death-Rate of whole Borough from Respiratory Diseases.
15-25	39	0·7	0·8
25-35	30	1·1	1·2
35-45	40	3·0	3·7
45-55	37	5·9	7·6
55-65	36	16·5	15·9
65 and upwards ...	41	65·6	35·6

1896-1900.

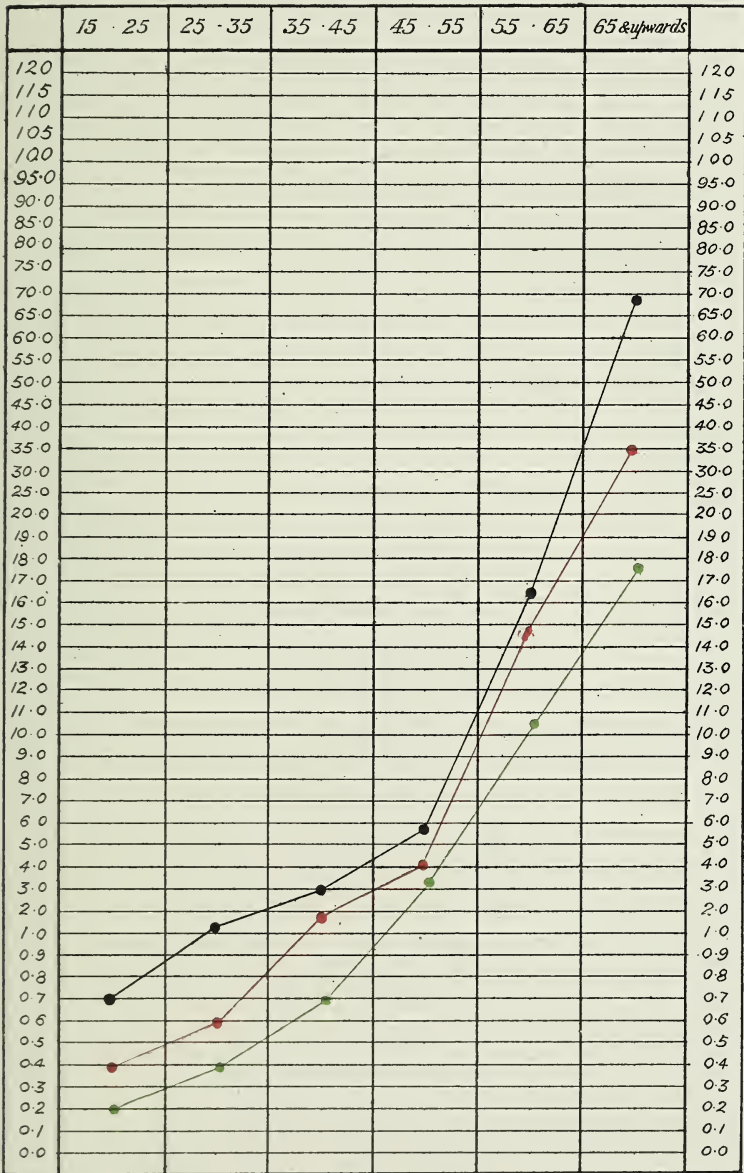
15-25	21	0·4	0·6
25-35	18	0·6	1·0
35-45	28	1·8	2·4
45-55	27	4·0	5·0
55-65	39	14·3	12·8
65 and upwards ...	35	34·3	27·1

1901-1905.

15-25	10	0·2	0·4
25-35	12	0·4	0·7
35-45	12	0·7	1·4
45-55	28	3·9	4·7
55-65	35	10·7	10·1
65 and upwards ...	25	17·6	23·6

CHART 8.

Average Death Rate from Respiratory Diseases other than Phthisis amongst Weavers from 1891—1905, in 5 year periods.



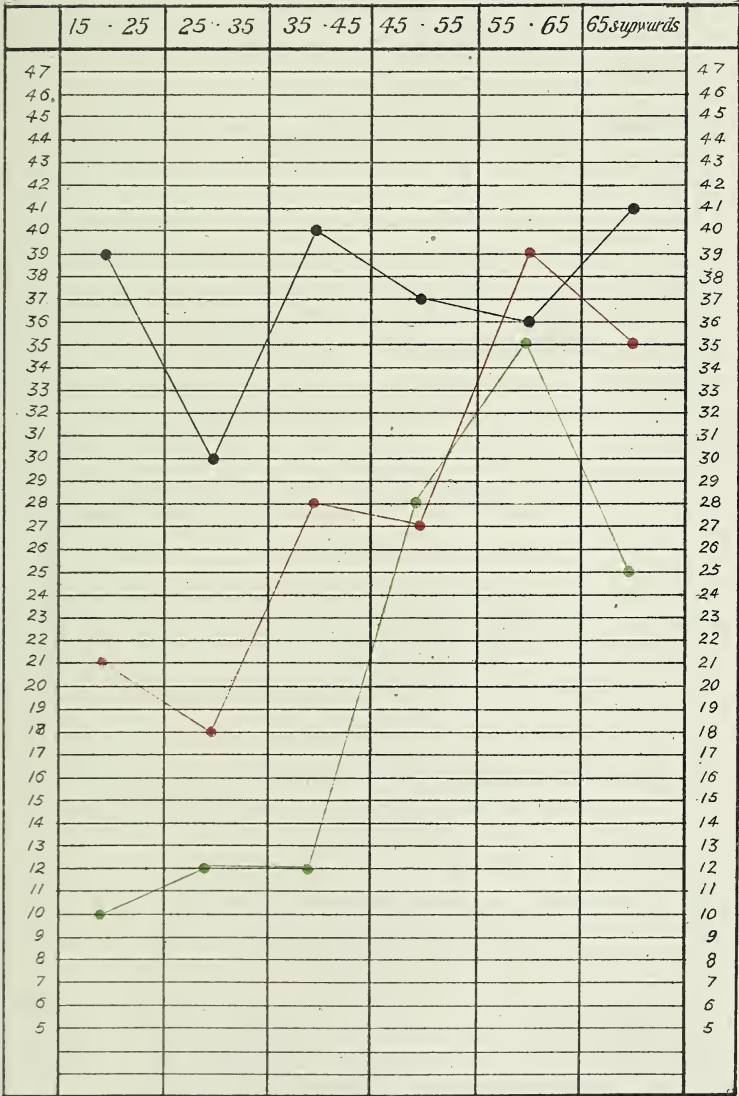
Black indicates period 1891 - 1895

Red indicates period 1896 - 1900

Green indicates period ~~1896~~ - 1905
1901

CHART 9.

Deaths from Respiratory Diseases other than Phthisis
amongst Weavers from 1891—1905, in 5 year periods.



Black indicates period 1891 · 1895

Red indicates period 1896 · 1900

Green indicates period 1901 · 1905

From the preceding tables and charts the following conclusions may be drawn:—

1. That the death-rates amongst the four main groups of cotton operatives in Blackburn at all the age-periods have diminished between 1891 and 1905.

2. That the death-rates amongst weavers from the ages 15 to 55 have been lower than the average death-rates for the whole borough since 1891.

3. The death-rates since 1891 amongst male and female weavers have diminished at each age-period except one, namely amongst female weavers from 45 to 55 years of age. This rate has increased by 2.1. It is also interesting to note that the death-rate at this same period from phthisis amongst weavers increased by 1.3 and 0.4 in the quinquennial periods respectively ending 1900 and 1905 compared with the quinquennial period ending 1895.

4. The death-rates from phthisis amongst weavers have shown a steady decline, with the exception named above. This improvement has been most marked between 25 and 45 years of age.

5. The death-rates from other respiratory diseases amongst weavers have also shown a very marked improvement.

6. The above death-rates have improved progressively during each of the last three quinquennial periods.

The foregoing facts and figures therefore enable one to state that the conditions under which cotton operatives work in Blackburn have improved enormously, and that the death-rates amongst them improve continually.

FEVER HOSPITAL.

The Fever Hospital is situated in Longshaw Lane, on an open site of $10\frac{1}{2}$ acres, and at a height of 560 feet above sea level.

Full particulars appeared in my Annual Report for 1903 respecting cost, number of beds, buildings, etc.

The following Table gives an analysis of the number of cases admitted to the Fever Hospital during 1906, the number of deaths, and other details.

It will be observed that the average number of beds occupied was 85.2, which is 40.8 less than during 1905.

The average number of days occupied in the Hospital by the patients was 41.1, which is 5.3 more than for 1905.

There was a less case mortality from Scarlet Fever, and a greater case mortality from Enteric Fever during 1906, as compared with 1905.

Outbreaks of Mumps, Measles, and Chickenpox occurred amongst the Scarlet Fever patients owing to imported infection.

The Hospital has maintained its reputation as a life-saving institution. Many cases recovered there who could not have been nursed successfully at their own homes.

The strain upon the Hospital although great during the year has not been so heavy as it was during 1905.

New kitchen ranges have been fixed in the kitchens of the administrative block and the Acute Scarlet Fever block

respectively. Also the usual repairs have been carried out where necessary.

I have again followed the plan initiated in my Annual Report for 1903, of giving a fuller description than had been included previously, of the cases treated in Hospital, dealing with each disease separately. Dr. Lawrence has assisted me in analysing the Register for this purpose.

TABLE LXVIII.—FEVER HOSPITAL.

Disease.	Patients remaining in hospital on January 1st, 1906.		Patients admitted and discharged in 1906.		Patients remaining in hospital on January 1st, 1907.		Analysis of cases admitted in 1906, including those admitted in 1906 and discharged in 1907.				Average No. of beds occupied during 1906.	Cases remov'd expressed as a percentage of total notified.	
	Recov-ered	Died.	Recov-ered.	Died	Recov-ered	Died	Total	Recov-ered.	Died.	Case M'tality			Average days in Hospital
	Total		Total		Total								
Scarlet Fever ...	98	4	562	26	63	1	625	598	27	4.3	43.4	74.3	73.9 per cent
Enteric Fever...	15	1	52	9	9	2	61	50	11	18.0	34.5	5.7	76.8 "
Diphtheria.....	1	0	46	5	10	0	56	51	5	8.9	45.5	6.9	39.7 "
Other Diseases	0	0	15	1	0	0	15	14	1	6.6	27.6	1.1	
Totals	114	5	675	41	82	3	757	713	44	5.8	41.1	85.2	69.0 "

This Table includes 12 cases admitted from outside the Borough during 1906, and the percentages are worked out on the total number of admissions into Hospital.

SCARLET FEVER.

The total number of cases admitted during the year as Scarlet Fever was 628. Of these three were negative, leaving a total of 625 true cases. Of these 625 cases, five were from districts outside the Borough.

The following complications or sequelæ occurred among the above patients :—

<i>Complications.</i>	<i>No. of Cases.</i>
Albuminuria	207
Otorrhœa	162
Rhinorrhœa	126
Excoriations of—	
Nose	75
Angle of mouth	27
Ear	10
Cheek	11
Lip	8
Skin	9
Cervical adenitis—	
Suppurative	25
Non-suppurative	91
Abscess of—	
Axilla	4
Cheek	3
Buttock	3
Leg	6
Finger	24
Bronchitis	50
Cervical tonsillitis	48
Nephritis	30
Rheumatism	21
Conjunctivitis	16

Endocarditis	14
Enteritis	11
Dilated heart	11
Mastoid disease	9
Tinea	10
Pneumonia	7
Blepharitis	5
Laryngitis	3
Neuritis	3
Necrosis	2
Ulcerative stomatitis	2
Meningitis	1
Tubercular arthritis	1
Impetigo	1

Among the patients admitted to the Fever Hospital with Scarlet Fever, five had relapses while in the Hospital. The clinical history of each patient is given below.

Case 1.—Hospital Register No. 51. H. S., aged 5 years. Admitted February 27th. History: February 24th, vomiting, sore throat; February 25th, rash. On admission: Well marked erythematous rash on trunk and extremities. Tongue papillæ injected. Throat injected. Relapse, March 30th. Well-marked erythematous rash, trunk and extremities. Tongue typical. Throat injected. Desquamation after both attacks. The relapse occurred 34 days after the first attack.

Case 2.—Hospital Register No. 212. A. H., aged 5 years. Admitted March 28th. History: March 24th, headache, sore throat, vomiting; March 27th, rash. On admission: Tongue papillæ injected; throat injected; erythematous rash on trunk and extremities. Relapse, April 25th. Throat injected; tongue papillæ injected; well-marked erythematous rash trunk and ex-

tremities. Desquamation after both attacks well marked. The relapse occurred 30 days after the first attack.

Case 3.—Hospital Register No. 246. L. M., aged 6 years. Admitted April 18th. History: April 14th, sore throat; April 17th, rash. On admission: Tongue papillæ injected; throat injected; well-marked erythematous rash on trunk and extremities. Relapse, May 13th. Fauces and tonsils injected. May 14th, well-marked erythematous rash trunk and extremities. Desquamation after both attacks. The relapse occurred 30 days after the first attack.

Case 4.—Hospital Register No. 571. M. A., aged 5. History: October 9th, vomiting, headache, sore throat; October 10th, rash. On admission: All the signs of Scarlet Fever; November 24th, rash, headache, and sore throat. The relapse occurred 45 days after the first attack.

Case 5.—H. A., 19 years, male. Admitted November 19th. History: Sore throat, headache and vomiting, November 27th; rash, November 28th. On admission: Tongue papillæ injected, throat injected, well-marked erythematous rash on trunk and limbs. Relapse December 18th. Congestion of throat, erythematous rash on trunk, tongue papillæ injected.

Three negative cases of Scarlet Fever occurred. These were all cases of Catarrhal Tonsillitis.

Mumps amongst Scarlet Fever Patients.

Four cases occurred:—

E. S. (526), aged 5 years. Admitted, September 27th. Discharged, December 14th. Developed Mumps on November 30th.

J. L. (596), aged 7. Admitted, October 18th. Discharged, December 21st. Developed Mumps on November 29th.

J. H. (738), aged 4 years 10 months. Admitted, December 17th, with Scarlet Fever. Developed Mumps on December 19th. Discharged, January 25th, 1907.

J. L., female, 21 (staff). Developed Mumps when nursing Scarlet Fever patient, December 29th, 1906.

Measles amongst Scarlet Fever Patients.

An outbreak of Measles occurred early in the year 1906 among the Scarlet Fever patients. The first patient to be attacked was E. P. (1147), admitted on December 14th, 1905. The patient was apparently incubating Measles when admitted. Nineteen days after admission, January 2nd, 1906, the rash developed. The patient was at first in Ward V., and five days later transferred to Ward IV. She was not isolated previous to the appearance of the rash.

The next patient to develop Measles was E. M. (1057). She was admitted to Ward V. with Scarlet Fever, and from December 14th to January 6th was in the ward where E. P., the first case, had been for 19 days. The rash appeared on January 6th, and she was immediately isolated in Ward IV.

On January 13th, E. F., aged 2 years, developed a rash. She had been in Ward V. from November 16th up to the time of appearance of the rash, and had been infected about the end of December, probably from E. M.

On January 15th three cases occurred. Of these, one, E. R., had been in Ward I., where the first case was finally placed.

A. B. and J. S. had also been in Ward I. From this date cases appeared in rapid succession, and it became impossible to trace the infection to any particular patient. Measles was prevalent in the Borough at this time, and one case, S. A., female, aged 3 years, admitted on January 18th, developed a rash on January 28th, and may have been infected outside. The details of all the cases are tabulated below:—

A

	Register No.	Description.	Admitted.	Date of Eruption	Initial Symptoms and Date of Appearance.
Case 1	1147	E.P., female, 4½	December 14th	January 2nd	Bronchitis. January 1st
" 2	1057	E.M., female, 4	November 22nd	January 6th	Cough. January 5th
" 3	1041	E.F., female, 2	November 16th	January 13th	.....
" 4	1173	F.R., female, 2	December 28th	January 15th	Bronchitis. January 13th
" 5	1176	H.B., male, 3	December 30th	January 15th	Bronchitis. January 12th
" 6	1159	J.S., male, 2	December 19th	January 15th	.....
" 7	1174	E.F., female, 3	December 28th	January 21st	Coughing & sneezing. Jan. 20
" 8	5	M.O'M., male, 3	January 2nd	January 22nd	Bronchitis. January 21st
" 9	1130	S.L., female, 2	December 11th	January 24th	.....
" 10	22	W.F., male, 2	January 6th	January 28th	.....
" 11	34	G.B., male, 3½	January 11th	January 28th	.....
" 12	43	S.A., female, 3	January 18th	January 28th	.....
" 13	14	R.H., male, 1½	January 4th	January 29th	.....
" 14	51	S.H., female, 4	January 13th	January 30th	.....
" 15	1180	K.L., female, 2	December 30th	January 31st	.....
" 16	15	W.W., male, 2	January 4th	February 4th	.....

Return Cases of Scarlet Fever.

Twenty-seven "return cases" occurred. "Return cases" is a term employed to indicate the re-appearance of Scarlet Fever infection in a household within one month after the return home of a Scarlet Fever patient from the Hospital.

The following are particulars of the 27 return cases of Scarlet Fever which occurred in 1906. The periods between the first case returning home and the second cases occurring were:—

<i>Period.</i>	<i>Number of Cases.</i>
2 days	2
4 ,,	3
5 ,,	3
6 ,,	1
7 ,,	5
8 ,,	3
9 ,,	4
11 ,,	2
12 ,,	1
13 ,,	2
20 ,,	1

Fuller details of the circumstances under which infection of each return case occurred are given in the following table:—

TABLE LXIX.—RETURN CASES OF SCARLET FEVER. (Hospital Treated).

INFECTING CASE.						INFECTED CASE.				
Case No.	Description.	Date of Admission.	Date of Discharge.	No. of Days in Hospital.	Complications.	Case No.	Description.	Date of Onset.	Date of Admission.	Days' Interval.
1	H.L., female, 4½ years	Oct. 18	Dec. 27	70	Rhinorrhoea, Eczema at angle of mouth.	1	M.H., female, 3 years.	Jan.	Jan. 3	5
2	L.P., female, 5 years	Dec. 2	Dec. 30	29	.....	2	W.P., male, 4 years.	Jan. 3	Jan. 5	5
3	T.H., male, 4 years	Dec. 12	Jan. 9	29	.....	3	N.H., female, 3 years	Jan. 13	Jan. 15	4
4	R.T.R., male, 9 years	Jan. 17	Feb. 20	34	Rhinorrhoea for 9 days, absent when discharged.	4	W.R., male, 21 years.	Feb. 26	Feb. 28	6
5	W.L., male, 4 years	Jan. 9	Feb. 20	42	Enlarged Cervical glands and secondary sore Throat.	5	B.L., female, 16 years.	Feb. 27	Mar. 5	7
6	E.S., female, 8 years	Jan. 22	Feb. 27	36	.....	6	T.S., male, 3 years.	Mar. 6	Mar. 7	9
7	J.L., male, 4 years	Jan. 29	Mar. 2	34	.....	7	F.R., female, 6 years.	Mar. 15	Mar. 16	13
8	L.H., male, 7 years	Feb. 22	Mar. 27	31	Enlarged Cervical glands. Normal on return home.	8	M.H., female, 3 years. A.H., female, 13 years	April 7 April 8	April 9 April 9	11 12

TABLE LXIX.—RETURN CASES OF SCARLET FEVER. (Hospital Treated).—continued.

INFECTING CASE.				INFECTED CASE.						
Case No.	Description.	Date of Admission.	Date of Discharge.	No. of Days in Hospital.	Complications.	Case No.	Description.	Date of Onset.	Date of Admission.	Days' Interval.
9	D. A., female, 8 years	Mar. 13	April 17	35	Albuminuria and Septic thumb.	9	M. A., female, 6 years.	April 24	April 24	7
10	M. C., female, 6 years	Mar. 16	April 17	32	.....	10	C. C., female, 9 years.	April 30	May 2	13
11	F. B., male, 5 years	Mar. 27	April 27	31	.....	11	W. B., male, 7 years.	May 8	May 10	11
12	A. C., female, 10 years	Mar. 31	May 8	39	Albuminuria.	12	B. C., female, 16 years.	May 12	May 15	4
13	L. McH., female, 3 years	Mar. 19	May 8	50	Otorrhoea, Rhinorrhoea, Eczema about mouth.	13	M. McH., female, 5 years	May 20	May 22	12
14	M. J. W., female, 7 years	May 28	July 13	46	Otorrhoea one ear.	14	H. B., male, 4 years. A. W., female, 14 years.	July 21 July 22	July 26 July 26	8 9
15	F. K., male, 10 years	July 2	Aug. 15	44	.....	15	E. K., female, 7 years.	Aug. 17	Aug. 20	2
16	H. B., male, 6 years	July 9	Aug. 17	39	.....	16	W. B., male, 7 years.	Aug. 19	Aug. 21	2
17	L. O., female, 4 years	July 27	Sept. 21	56	Rhinorrhoea, Eczema Nose.	17	R. O., female, 8 years.	Sept. 25	Sept. 26	4

TABLE LXIX.—RETURN CASES OF SCARLET FEVER. (Hospital Treated).—continued.

INFECTING CASE.				INFECTED CASE.						
Case No.	Description.	Date of Admission.	Date of Discharge.	No. of Days in Hospital.	Complications.	Case No.	Description.	Date of Onset.	Date of Admission.	Days' Interval.
18	E.S., male, 4 years	Aug. 27	Oct. 2	36	Albuminuria.	18	G.S., female, 8 years.	Oct. 9	Oct. 11	7
19	M.B., female, 1½ years	Aug. 17	Oct. 9	54	Otorrhœa and Rhinorrhœa.	19	M.B., female, 9 years.	Oct. 15	Oct. 17	7
20	F.H., female, 6 years	Aug. 30	Oct. 2	34	Cervical glands. Chronic enlarged Tonsils	20	W.H., male, 3 years.	Oct. 22	Oct. 22	20
21	G.A., female, 9 years	Sept. 22	Oct. 22	30	.....	21	A.A., female, 2½ years.	Oct. 31	Oct. 31	9
	N.A.,	Sept. 20	Oct. 26	36	.....		J.A.,	Nov. 13	Nov. 13	14
	S.A.,	Sept. 20	Oct. 31	41	.....		.....	.....	.....	5
22	M.H.,	Aug. 23	Nov. 6	75	Otorrhœa and Excoriation about Ears.	22	A.H., female, 2½ years.	Nov. 15	Nov. 16	9
23	K.B., female, 13 years	Oct. 8	Nov. 6	30	.....	23	M.B., female, 5 years.	Nov. 11	Nov. 15	5
24	L.W., female, 7 years	Nov. 8	Dec. 21	43	Rhinorrhœa, Eczema Nose.	24	A.W., female, 4 years.	Dec. 28	Dec. 31	7
25	A.D., female, 4 years	Sept. 22	Nov. 16	55	Mastoid Abscess, Eczema Mouth.	25	A.D., female, 5 years.	Nov. 25	Nov. 27	9

Remarks on the above "Return Cases" of Scarlet Fever.

Case 1.—The patient, L. H., went home after a stay of 10 weeks in Hospital. She had sores at the angles of her mouth and nasal discharge while in Hospital, but these had disappeared when she was discharged. At home she slept in the same bed as M. H., the "infected case." Others in the same house who had not had Scarlet Fever, but who did not come into such close contact with L. H. as did M. H., were not infected.

Case 2.—The patient, L. P., was in Hospital for 29 days, and had an uneventful illness without complications of any kind. She slept with the "infected case" on her return home. Others in the house who had not had Scarlet Fever were not infected.

Case 3.—T. H., after an attack of Scarlet Fever without complications, returned home, having been in the Hospital for 29 days. There are 14 in the family, five of whom have not had Scarlet Fever. The infecting and infected patients slept in the same bedroom.

Case 4.—R. T. R. was discharged after a stay of 34 days in Hospital. His illness had been complicated by nasal discharge continuing for nine days, but this was absent when he left the Hospital. The infecting and infected patients did not come into close contact at home. Two others in the house who also had not had Scarlet Fever were not attacked.

Case 5.—W. L. was discharged after an illness of 42 days, complicated by secondary tonsillitis and enlarged cervical glands. He was free from complications when discharged. He had some nasal discharge the day after his return home. He and the "infected case," B. L., came together in the house.

Case 6.—E. S., discharged after an uncomplicated illness of 36 days, slept in same room as "infected patient." There were three other people in the same house who had not had Scarlet Fever.

Case 7.—J. L., discharged without complications, after an illness of 34 days, came in contact with “infected patient” in the living room, but did not sleep in the same bedroom.

Case 8.—L. H. stayed in Hospital 31 days with an illness complicated by enlarged cervical glands. These were normal on his return home. He slept in same bed as M. H. and A. H., both of whom became infected.

Case 9.—D. A. was discharged without complications. A watery discharge from the nose commenced two days later. She did not sleep in the same room as the infected patient, but they met in the living room. There was one other person in the same house who had not had Scarlet Fever.

Case 10.—M. C. was discharged after a stay of 32 days in Hospital. She had an uncomplicated illness. Rhinorrhœa commenced shortly after her return home. She met the “infected patient” in the living room, and did not sleep with her. There was one other susceptible person in the same house.

Case 11.—F. B. had an uncomplicated illness. He was discharged after 31 days. He infected his brother, W. B. They did not sleep together, but came together in the living room. There was no other susceptible person in the same house.

Case 12.—A. C. went home after a stay in hospital of 39 days. He was free from complications at time of discharge. Watery nasal discharge, causing excoriation of the skin, appeared after his return home. He infected his sister, B. C., who slept in the same bedroom but not in the same bed. There was one other person in the same house who had not had Scarlet Fever.

Case 13.—L. McH. was discharged after a stay of 50 days in Hospital. She had discharges from her ears and nose, and eczema around the mouth. She was free from these complications. Nasal discharge commenced nine days after her return home. She and her sister, M. McH., did not sleep in the same bedroom, but met in the living room. There were two other persons in the same house who had not had Scarlet Fever.

Case 14.—M. J. W. had an illness of 46 days, complicated by discharge from one ear. This had ceased at the date of his return home. He infected two persons, one of whom slept in the same bed and the other came in contact with M. J. W. in the living room.

Case 15.—F. K. went home after an uncomplicated illness of 44 days. There were no complications at the time of discharge. He slept in the same bedroom as E.K.

Case 16.—H. B. had no complications during his illness. He was discharged after 39 days, and slept in same room as W. B., the infected patient.

Case 17.—L. O. had rhinorrhœa and eczema about the nostrils as complications of Scarlet Fever. She was free from these at the date of discharge after being isolated for 56 days. Rhinorrhœa commenced the day after her return home. She slept in the same bed as her sister, R. O.

Case 18.—E. S., male, had albuminuria, which disappeared before his discharge; he was isolated for 36 days. Rhinorrhœa occurred the day after his return home. He slept in the same room as G. S., and also came in contact with him in the living room.

Case 19.—M. B. was isolated for 54 days. She had otorrhœa and rhinorrhœa, but was free from these at the time she was discharged. Rhinorrhœa commenced the day after her return home. She and M. B., the infected patient, did not sleep together, but came together in living room. There was one other person in the house who had not had Scarlet Fever.

Case 20.—F. H. was isolated for 34 days. She had large tonsils, and her illness was complicated by enlargement of the cervical gland. These had subsided at the time of discharge.

She did not sleep in the same bedroom as W. H. There was one other person in the house who had not had Scarlet Fever.

Case 21.—Three patients, G. A., N. A., and S. A., admitted within two days, were discharged after periods of isolation of 30, 36, and 41 days. They had no complications while in hospital, but G. A. began to have watery nasal discharge eight days after leaving the Hospital. Two return cases occurred in this house after periods of nine and 14 days after the return home of G. A.

Case 22.—M. H. was isolated for 75 days on account of otorrhœa. This had ceased before she was discharged, but began again after her return home. M. H. and A. H. slept together.

Case 23.—K. B. had an uncomplicated illness, and was discharged free from complication after being isolated 30 days. No nasal or aural discharge occurred after her return home. She and M. B. slept in the same bedroom. There were three other persons in the same house who had not had Scarlet Fever.

Case 24.—L. W. was isolated for 43 days after an illness complicated by rhinorrhœa. This had disappeared by the day of discharge, but recurred after her return home. She and A. W. slept in the same room.

Case 25.—A. D. had an illness complicated by a "mastoid abscess." This had healed before the day of her discharge. She was isolated for 55 days. Rhinorrhœa commenced the day after her return home. She and A. D. slept in the same bed.

The following form, prepared by the Incorporated Society of Medical Officers of Health, has been used in the investigation of "Return Cases" of Scarlet Fever, during 1906.

“RETURN CASES” OF SCARLET FEVER.

SCHEDULE OF INQUIRIES.

SCHEDULE of information as to so-called

“RETURN CASES.”

N.B.—The term “Return Case” includes any case occurring in the same house, *or elsewhere*, within a period of not less than 24 hours, or not more than 28 days, from, and after the release from isolation of the first patient, whether at home, or in hospital, which is apparently traceable to the patient so released ; but schedules should be filled up for *all* cases so occurring, whether so-called “return cases” or not.

1. SCARLET FEVER—HOSPITAL TREATED CASE.

CASE TREATED INHOSPITAL

A. As to the supposed Infecting Patient.

1. Name and address of patient
 age sex
2. Date of admission into hospital
3. Date of discharge from hospital
4. Day of disease on which patient was admitted to hospital
5. Extract from bed ticket, showing date of onset of any of the following symptoms, and the last date on which such symptoms were noticeable:—

	Date of appearance.	Date of cessation.	Whether present on discharge from Hospital.
(a) Otorrhœa
(b) Rhinorrhœa
(c) Any eczematous condition around mouth, nostrils or ears
(d) Enlarged cervical glands
(e) Secondary sore throat occurring during convalescence
(f) Other complications or conditions having possible bearing on recurrent infection (including desquamation)

6. Nature and extent of disinfection carried out by the Sanitary Authority (or otherwise), at the patient's home, at the time of, or after, such patient's removal to hospital (*e.g.*, number of rooms, bedding, clothing, toys, books, &c.):—

(a) Sanitary Authority

(b) Otherwise

7. Method of discharge of patient from hospital.

(a) Whether direct from a Ward into which acute cases are admitted

(b) Whether direct from a Ward into which no acute cases nor any patients with discharges from the nose or ears, are received, but which are solely occupied by convalescents

- (c) Whether from a "Discharge Ward" (*i.e.*, one reserved for the patient alone, or occupied only by a few selected cases who are otherwise considered ready for discharge), it being understood that each patient has been finally bathed, and the clothes disinfected, previous to being admitted to, and discharged from, such "Discharge Ward," unless the contrary is expressly stated
- (d) Particulars as to overcrowding in hospital (if any)
8. History of the supposed infecting patient after leaving the hospital.
- (a) Was there any evidence of any of the previously enumerated complications, on the patient's arrival home?
- (b) If not, how soon, if at all, did any of them appear, and under what circumstances?
- (c) Character and extent of contact, between (a) supposed infecting patient, and (b) infected patient'
- (d) Facts bearing on the efficiency and completeness of disinfection of the patient previous to leaving hospital
9. List of persons in same household, giving age and sex in each instance, and whether they had previously had attacks of Scarlet Fever
-
-
-

10. Size of house (number of rooms, etc.)

B. As to the supposed Infected Patient.

1. Name of patient
 age sex

2. Date of onset of attack

3. Whether living in same house as the supposed infected
 patient

4. Character and extent of contact between (a) infected
 and (b) supposed infecting patient

5. Other possibilities of infection

6. Particulars as to the disease in the supposed infected
 patient.

(a) Character (mild, moderate or severe)

(b) Result (recovery or death)

SCARLET FEVER—HOME TREATED CASE.

CASE TREATED AT STREET.

A. As to the supposed Infecting Patient.

1. Name of patientage.....sex.....

2. Date of onset of attack

3. Date on which isolation in one room was begun

4. Date when isolation was discontinued

5. Date of onset of any of the following symptoms, and the last date on which such symptoms were noticeable:—

	Date of appearance.	Date of cessation.	Whether present on discharge from Isolation.
(a) Otorrhœa			
(b) Rhinorrhœa			
(c) Any eczematous condition around mouth, nostrils or ears			
(d) Enlarged cervical glands			
(e) Secondary sore throat occurring during convalescence...			
(f) Other complications or conditions having possible bearing on recurrent infection (including desquamation)			

6. Method of release from isolation, comprising full particulars as to disinfection of—

(a) Patient

(b) Patient's apparel

7. Nature and extent of disinfection carried out by the Sanitary Authority (or otherwise), at the patient's home, at the time of, or after, such patient's release from isolation (*e.g.*, number of rooms, bedding, clothing, toys, books, etc.):—

(a) Sanitary Authority

(b) Otherwise

8. History of the supposed infecting patient after being released from isolation.

(a) Was there any evidence of any of the previously enumerated complications when the patient was released from isolation?

(b) If not, how soon, if at all, did any of them appear, and under what circumstances?

(c) Character and extent of contact between (1) supposed infecting patient, and (2) infected patient

9. List of persons in same household, giving age and sex in each instance, and whether they had previously had attacks of Scarlet Fever

10. Size of house (number of rooms, etc.)

B. As to the supposed Infected Patient.

1. Name of patient

..... age sex

2. Date of onset of attack

3. Whether living in same house as the supposed infecting patient

4. Character and extent of contact between (a) infected and (b) supposed infecting patient

.....
.....

5. Other possibilities of infection
6. Particulars as to the disease in the supposed infected patient.
 - (a) Character (mild, moderate or severe)
 - (b) Result (recovery or death)

Secondary Cases occurring whilst the First Case was in Hospital.

The following are particulars of secondary cases occurring during the year.

Secondary cases occurring in a house from which the first case was removed to Hospital, but which occurred before discharge from Hospital. There were 49 of these during the year. The periods between the onset of the first case and onset of the second were:—

<i>Period.</i>	<i>Number of cases</i>
Less than 1 day	3
1 ,,	5
2 days	5
3 ,,	2
4 ,,	2
5 ,,	6
6 ,,	1
7 ,,	5
8 ,,	3
9 ,,	1
10 ,,	1
12 ,,	1
13 ,,	2
14 ,,	2
15 ,,	2
17 ,,	1
19 ,,	1
21 ,,	3
27 ,,	1

TABLE LXX.—Secondary Cases occurring whilst the first Case was in Hospital.

INFECTING CASE.			INFECTED CASE.				Number of days interval between onset of infecting case and onset of infected case.	
Case Number	Description.	Date of Onset.	Date of Admission.	Case Number.	Description.	Date of Onset.		Date of Admission.
1	S.S., male, 2 years	Dec. 25th	Jan. 4th	1	J.S., male, 12 years	Jan. 4th	Jan. 7th	9
2	S.L., female, 9 years	Jan. 1st	Jan. 5th	2	W.L., male, 4 years	Jan. 6th	Jan. 9th	5
3	M.W., female, 5 years	Jan. 6th	Jan. 9th	3	H.W.,	Jan. 11th	Jan. 12th	5
4	A.D., female, 14 years	Jan. 17th	Jan. 19th	4	N.D., female, 11 years	Jan. 22nd	Feb. 6th	5
5	L.M., female, 5 years	Jan. 18th	Jan. 19th	5	A.M., male, 1½ years	Jan. 23.d	Jan. 24th	5
6	N.S., female, 7 years	Jan. 21st	Jan. 25th	6	S.S., male, 8 years	Jan. 29th	Jan. 30th	8
7	L.F., female, 1½ years	Jan. 28th	Jan. 29th	7	H.F., male, 26 years	Feb. 10th	Feb. 12th	13
8	Q.R., male, 4 years	March 4th	March 9th	8	G.D., male, 2 years	March 11th	March 13th	7
9	J.O., male, 5 years	March 5th	March 7th	9	J.O., male, 2 years	March 9th	March 12th	4
10	T.S., male, 3 years	March 6th	March 7th	10	E.S., male, 10 years	March 14th	March 16th	8
11	B.O., female, 11 years	March 15th	March 16th	11	J.O., male, 4 years	March 21st	March 22nd	6
12	D.L., female, 4 years	March 23rd	March 27th	12	A.L., male, 2 years	March 31st	April 2nd	8

TABLE LXX.—Secondary Cases occurring whilst the first Case was in Hospital. (continued).

INFECTING CASE.			INFECTED CASE.				Number of days interval between onset of infecting case and onset of infected case.	
Case Number	Description.	Date of Onset.	Date of Admission.	Case Number	Description.	Date of Onset.		Date of Admission.
13	J. McG., male, 4 years	March 28th	March 30th	13	T. McG., male, 5 years	April 1st	April 2nd	4
14	E. G., female, 9 years	May 1st	May 3rd	14	M. G., female, 5 years	May 11th	May 14th	10
15	E. F., male, 6 years	May 1st	May 8th	15	W. F., male, 3 years	May 16th	May 19th	15
16	A. L., female, 3 years	May 27th	May 31st	16	V. L., female, 7 years	June 1st	June 6th	5
17	E. S., female, 6 years	May 23rd	May 24th	17	J. S., male, 10 years	June 4th	June 5th	12
18	W. F., male, 3 years	May 16th	May 19th	18	M. F., female, 5 years	June 6th	June 16th	21
19	A. R., female, 5 years	June 10th	June 11th	19	E. R., female, 7 years	July 1st	July 3rd	21
20	H. H., male, 3 years	May 28th	May 29th	20	B. H., male, 9 years	June 25th	July 12th	27
21	F. B., female, 7 years	July 9th	July 10th	21	J. B., male, 2 years	July 11th	July 12th	2
22	A. W., female, 14 years	July 22nd	July 26th	22	T. W., male, 10 years	July 29th	July 30th	7
23	F. C., male, 7 years	July 30th	Aug. 2nd	23	N. C., female, 10 years	Aug. 7th	Aug. 7th	8
24	M. C., female, 5 years	July 29th	Aug. 4th	24	M. C., female, 2 years	Aug. 11th	Aug. 14th	13

TABLE LXX.—Secondary Cases occurring whilst the first Case was in Hospital. (continued).

INFECTING CASE.				INFECTED CASE.				Number of days interval between onset of infecting case and onset of infected case.
Case Number	Description.	Date of Onset.	Date of Admission.	Case Number	Description.	Date of Onset.	Date of Admission.	
25	L.O., female, 4 years	July 26th	July 27th	25	R.O., male, 11 years	Aug. 11th	Aug. 15th	15
26	M.B., female, 4 years	Aug. 16th	Aug. 21st	26	D.B., male, 6 years	Sept. 7th	Sept. 8th	21
27	G.H., male, 7 years	Aug. 6th	Aug. 10th	27	J.H., male, 4 years	Aug. 20th	Aug. 22nd	14
28	M.C., female, 2 years	Aug. 11th	Aug. 14th	28	J.C., male, 7 years	Aug. 30th	Aug. 31st	19
29	E.R., female, 5 years	Aug. 15th	Aug. 27th	29	W.R., male, 1 yr. 3 mths.	Aug. 29th	Sept. 1st	14
30	C.E., male, 7 years	Aug. 20th	Aug. 22nd	30	R.E., male, 29 years	Sept. 6th	Sept. 8th	17
31	J.S., male, 5 years	Sept. 5th	Sept. 7th	31	E.S., female, 3 years	Sept. 12th	Sept. 13th	7
32	D.A., female, 7 years	Sept. 19th	Sept. 20th	32	G.A., female, 9 years	Sept. 22nd	Sept. 22nd	3
33	E.P., male, 7 years	Sept. 12th	Sept. 14th	33	T.P., male, 4 years	Sept. 19th	Sept. 20th	7
34	E.S., female, 3 years	Sept. 12th	Sept. 13th	34	E.S., female, 9 years	Sept. 23rd	Sept. 25th	2
35	J.S., male, 8 years	Sept. 22nd	Sept. 25th	35	E.S., female, 5 years	Sept. 25th	Sept. 25th	0
36	A.W., male, 12 years	Sept. 30th	Oct. 2nd	36	F.W., female, 2 years	Oct. 3rd	Oct. 5th	2

TABLE LXX.—Secondary Cases occurring whilst the first Case was in Hospital. (continued).

Case Number.	INFECTING CASE.			INFECTED CASE.			Number of days interval between onset of infecting case and onset of infected case.	
	Description.	Date of Onset	Date of Admission.	Case Number.	Description.	Date of Onset.		Date of Admission.
37	E.S., female, 5 years	Oct. 1st	Oct. 3rd	37	J.S., male, 10 years	Oct. 3rd	Oct. 4th	1
38	E.S., female, 6 years	Oct. 9th	Oct. 11th	38	M.S., female, 2 years	Oct. 12th	Oct. 12th	0
39	G.W., male, 15 years	Sept. 8th	Sept. 10th	39	R.W., male, 3 years	Oct. 19th	Oct. 19th	0
40	J.H., female, 4 years	Oct. 13th	Oct. 13th	40	A.H., male, 11 years	Oct. 18th	Oct. 19th	1
41	A.J., female, 7 years	Oct. 8th	Oct. 10th	41	A.J., male, 9 years	Oct. 25th	Oct. 30th	5
42	J.G., female, 4 years	Oct. 31st	Nov. 1st	42	T.G., male, 10 years	Nov. 3rd	Nov. 5th	2
43	J.B., male, 5 years	Oct. 21st	Oct. 22nd	43	A.B., female, 9 years	Nov. 7th	Nov. 9th	2
44	B.P., female, 2 years	Nov. 5th	Nov. 8th	44	D.P., female, 4 years	Nov. 13th	Nov. 14th	1
45	D.P., female, 4 years	Nov. 13th	Nov. 14th	45	E.P., female, 6 years	Nov. 13th	Nov. 20th	7
46	E.D., female, 5 years	Nov. 19th	Nov. 24th	46	E.D., female, 9 years	Nov. 25th	Nov. 28th	3
47	A.D., female, 5 years	Nov. 25th	Nov. 27th	47	E.D., female, 2 years	Nov. 29th	Nov. 30th	1
48	L.H., female, 4 years	Dec. 5th	Dec. 7th	48	R.H., female, 6 years	Dec. 7th	Dec. 8th	1
49	E.S., female, 8 years	Oct. 27th	Nov. 2nd	49	E.S., female, 7 years	Nov. 6th	Nov. 8th	2

III. *Secondary cases of Scarlet Fever occurring in a house in which the first case was nursed at home.* Seventeen of these occurred during the year. The periods respectively between the onset of the first case and the onset of the second case were:—

<i>Period.</i>	<i>Number of cases.</i>
2 days	1
6 ,,	2
7 ,,	3
11 ,,	1
13 ,,	2
19 ,,	1
20 ,,	1
21 ,,	1
23 ,,	1
35 ,,	1
62 ,,	1
75 ,,	1
83 ,,	1

TABLE LXXI.—SCARLET FEVER AND DIPHTHERIA CONCURRENTLY.

Four cases were admitted in which the patient suffered from both Scarlet Fever and Diphtheria concurrently from the first. Three were admitted certified as Scarlet Fever and one was certified as Diphtheria.

Register No.	Description.	Admitted.	Particulars of Scarlet Fever.	Particulars of Diphtheria.
Case 1 58	A.N., female, 9 years.	Jan. 17th.	Tongue and Throat injected.	Patch of exudation on left tonsil on admission. January 18th, swab of Throat contained Diphtheria Bacilli Paralysis of Palate subsequently occurred
Case 2 57	M.N., female, 4½ years.	Jan. 17th.	Typical Scarlet Fever.	No clinical signs of Diphtheria, Throat swab contained Diphtheria Bacilli. This patient slept with her sister, A.N. (case 1) and probably acted as a "carrier" of infection.
Case 3 597	F.M., female, 19 years.	Oct. 19th.	Typical Scarlet Fever.	November 20th, injection of fauces and tonsils. Small patches of exudation on both tonsils. November 21st, swab of Throat contained Diphtheria Bacilli There were no sequelæ of Diphtheria. This patient was a Wardmaid in the hospital.
Case 4 744	R.E., male, 17 years.	Dec. 21st.	The day after admission he had a Scarlatini form rash on the trunk and limbs—somewhat macular on the chest Erythematous on back of arms and upper part of legs. January 15th, found to be desquamating in large flakes on hands and feet. Powdery desquamation on the chest.	Admitted as Diphtheria. Subsequently had paralysis of the palate and Pharynx (nasal voice and difficulty in swallowing fluids). Also ocular paralysis.

TABLE LXXII.—POST SCARLATINAL DIPHTHERIA.

Diphtheria occurred among Scarlet Fever patients in four cases, during convalescence. Details of each case are given below.

	Register No.	Description.	Admitted.	Particulars of Scarlet Fever.	Particulars of Diphtheria.
Case 1	225	J. E., male, 6 years.	April 3rd.	Typical Scarlet Fever, complicated by convalescent tonsillitis on May 23rd, Albuminuria and high temperature for several days. May 23rd Acute Nephritis.	Tonsillitis of Catarrhal variety. No membrane. May 23rd Throat Swab = Diphtheria Bacilli.
Case 2	433	W. H., male, 12 years.	Aug. 13th.	Onset August 9th. On admission, Rhinorrhoea, later Epistaxis. August 18th. A clot came away from the nose on syringing. Discharged on November 6th.	August 19th, Swab from nose contained Diphtheria Bacilli. October 4th no Diphtheria Bacilli found.
Case 3	605	F. H., male, 6 years.	Oct. 20th.	Typical Scarlet Fever.	November 19th, injection of Throat. Swab = Diphtheria Bacilli (Neisser positive). November 20th, slight exudate on right tonsil. Died on November 28th from Cardiac Paralysis
Case 4	736	C. H. male, 4 years.	Dec. 15th.	Typical Scarlet Fever. Brother had been in with Scarlet Fever.	January 2nd, 1907, Tonsils injected, 4th, swab of Throat contained Diphtheria bacilli. The patient subsequently had Bradycardia and irregular heart.

TABLE LXXIII.

Varicella.

During the year 1906 there were two outbreaks of Varicella among the Scarlet Fever patients. This occurred during the early part of the year, when eight patients contracted it. The first two patients were incubating the disease when admitted. From these two patients, three inside the hospital were infected. The remaining three patients infected before admission and developed the rash after admission. The essential details are tabulated below :

Reg. No.	Initials.	Age.	Date of Admission.	Date of Eruption.	Remarks on Source of Infection.
$\frac{1180}{05}$	K.L.	2 years	Dec. 30th, 1905	Jan. 24th, 1906	Incubating the disease on admission. Last cases of Varicella discharged on Dec. 5th and Dec. 8th.
232	L.A.	6 years	April 6th		Incubating disease on admission. Some scabs over trunk noticed April 21st.
140	A.W.	6 years	Feb. 20th	May 2nd	Contracted probably from (232) — having slept in adjoining bed.
198	J.O.	4 years	Mar. 22nd	May 6th	Probably infected from (232) — having played with her.
246	L.M.	6 years	April 18th	May 21st	Infection from (140) — played with her up to and including May 2nd
316	J.B.	5 years	May 28th	Scabbing on Admission	Infected outside.
310	J.B.	4½ years	May 28th	June 4th	Infection from previous (316) before admission.
299	A.B.	3 years	May 22nd	June 5th	Infection from brother (316) before admission.

TABLE LXXIII.

Varicella.—continued.

The second outbreak began in October, and six patients were affected, five being admitted with Scarlet Fever and one with Diphtheria.

Reg. No.	Initials.	Age.	Date of Admission.	Date of Eruption.	Remarks on Source of Infection.
542	H.M.	8 years.	Oct. 3rd.	Oct. 15th.	
585	A.S.	5 years.	Oct. 15th.	Oct. 14th.	Varicella on admission to Ward V. (side Ward) with previous case and and then transferred to receiving room of Ward V.
405	H.B.	4 years.	July 26th.	Oct. 29th.	Transferred to receiving room of Ward V. as soon as the eruption appeared.
543	E.S.	5 years.	Oct. 3rd.	Nov. 13th.	Transferred to receiving room of Ward V. as soon as the eruption appeared.
617	J.T.	2 years.	Oct. 25th.	Nov. 18th.	Transferred to receiving room of Ward V. as soon as the eruption appeared.
688	J.R.	3 years.	Nov. 23rd.	Dec. 1st.	Removed to private Ward of Diphtheria block.

TABLE LXXIV.

Monthly Admissions of Scarlet Fever Cases to Fever
Hospital during 1906.

Month.	Total Number of Scarlet Fever Cases Notified.	Scarlet Fever Removals.	Percentages of Removals of S. F.
January	143	100	70·0
February	75	43	57·3
March	65	50	76·9
April	45	33	73·3
May	66	56	84·8
June	48	35	72·9
July	49	33	67·3
August	63	53	84·1
September	67	54	80·5
October	105	81	77·1
November	78	52	66·6
December	45	33	73·3
Totals	849	623	73·3

TABLE LXXV.

The following table shows the percentage of Scarlet Fever removals in wards during 1906.

Wards.	Percentages.
St. Stephen's	81·0
Trinity	73 0
St. Michael's	65·6
St. John's.....	81·6
St. Silas's.....	54 5
St. Paul's.....	75·0
St. Peter's	90 9
St. Mary's	76·7
St. Matthew's	75·5
St. Thomas's	75·0
Park	79 0
St. Luke's.....	83·3
St. Mark's	62 8
St. Andrew's	66·6

ENTERIC FEVER OR TYPHOID FEVER.

The total number of cases admitted to the Hospital certified as Enteric Fever was 56. Two of these were negative, leaving 54 true cases of the disease.

The two negative cases were:—

Phthisis	1
Lobar Pneumonia	1

Nine deaths occurred out of the 54 cases, giving a case mortality of 16.6 per cent.

One of the negative cases—the case of Lobar Pneumonia—died.

The following complications and sequelæ occurred:—

Bronchitis	in 33 cases.
Pneumonia	„ 11 „
Albuminuria	„ 7 „
Otorrhœa	„ 4 „
Dilated Heart	„ 4 „
Hæmorrhage	„ 1 case.
Orchitis	„ 1 „
Phlebitis	„ 1 „
Boils (1) Buttock	„ 1 „
(2) Scalp	„ 1 „
Abscess of Finger	„ 1 „
Nephritis	„ 1 „
Perforation	„ 1 „
Endocarditis	„ 1 „
Delirium	„ 1 „

A relapse occurred in one case.

Only one instance of personal infection occurred.

TABLE LXXVI.

The following table shows the percentage of Enteric Fever removals in Wards during 1906.

Ward.	Percentages.
St. Stephen's	57·1
Trinity	100 0
St. Michael's	50·0
St. John's	80·0
St. Silas's	75·0
St. Paul's	100·0
St. Peter's	83·3
St. Mary's	100·0
St. Matthew's	76·4
St. Thomas's ..	37·5
Park	50·0
St. Luke's.....	83·3
St. Mark's	100·0
St. Andrew's.....	71·4

TABLE LXXVII.

Showing cases of Scarlet Fever and Typhoid Fever removed to Hospital expressed as a percentage of the cases notified:—

Year.	Scarlet Fever.	Enteric Fever.
1895	56.0	45.4
1896	63.0	53.8
1897	61.0	51.4
1898	50.0	43.0
1899	47.0	54.0
1900	26.0	43.5
1901	26.7	59.5
1902	56.4	62.2
1903	69.0	60.8
1904	72.2	70.2
1905	71.6	62.2
1906	73.3	73.1

DIPHTHERIA.

Sixty-six cases were admitted to the Hospital certified as Diphtheria. Of these 10 were negative cases as follows:—

Catarrhal Tonsillitis	6
Rhinorrhœa	1
Follicular Tonsillitis	2
Specific Disease	1

Among the 56 cases of Diphtheria five deaths occurred. The cause of death in each case was heart failure.

The following complications and sequelæ occurred:—

Dilated Heart	in 19 cases.
Cardiac Paralysis	„ 10 „
Albuminuria	„ 13 „
Laryngitis	„ 7 „
Otorrhœa	„ 5 „
Bronchitis	„ 7 „
Anti-toxin Rash	„ 14 „
Paralysis of	
Palate	„ 4 „
8th Cranial Nerve	„ 1 case.
Ciliary Muscle	„ 1 „
Ocular Muscles	„ 4 cases.
Arm	„ 1 case.
Rhinorrhœa	„ 5 cases.
Endocarditis	„ 1 case.
Tachycardia	„ 2 cases.
Tracheotomy	„ 2 „
Enteritis	„ 1 case.
Nasal Diphtheria	„ 1 „
Abscess—	
Thumb	„ 3 cases.

Four cases of Post Scarlatinal Diphtheria occurred—three in which the throat was affected and one in which the nose was affected

In four cases Scarlet Fever and Diphtheria occurred concurrently. Three were certified as Scarlet Fever and one as Diphtheria. The details are given in tabular form in the section on Scarlet Fever.

The following is a copy of the form suggested by the Incorporated Society of Medical Officers of Health for the investigation of "Return Cases" of Diphtheria.

1. DIPHTHERIA—HOSPITAL TREATED CASE.
CASE TREATED INHOSPITAL

A. As to the supposed Infecting Patient.

1. Name and address of patient
..... age sex
2. Date of admission into hospital
3. Date of discharge from hospital
4. Day of disease on which patient was admitted to hospital
5. Extract from bed-ticket, showing date of onset of any of the following symptoms, and the last date on which such symptoms were noticeable:—

	Date of appearance.	Date of cessation.	Whether present on discharge from Hospital.
(a) Otorrhœa
(b) Rhinorrhœa
(c) Any eczematous condition around mouth, nostrils or ears
(d) Enlarged cervical glands
(e) Secondary sore throat occurring during convalescence...
(f) Other complications or conditions having possible bearing on recurrent infection.

6. Nature and extent of disinfection carried out by the Sanitary Authority (or otherwise), at the patient's home, at the time of, or after, such patient's removal to hospital (*e.g.*, number of rooms, bedding, clothing, toys, books, &c.):—

(a) Sanitary Authority

(b) Otherwise

7. Method of discharge of patient from hospital.

(a) Whether direct from a Ward into which acute cases are admitted

(b) Whether direct from a Ward into which no acute cases nor any patients with discharges from the nose or ears, are received, but which are solely occupied by convalescents

(c) Whether from a "Discharge Ward" (*i.e.*, one reserved for the patient alone, or occupied only by a few selected cases who are otherwise considered ready for discharge), it being understood that each patient has been finally bathed, and the clothes disinfected, previous to being admitted to, and discharged from, such "Discharge Ward," unless the contrary is expressly stated

(d) Particulars as to overcrowding in hospital (if any)

8. History of the supposed infecting patient after leaving the hospital.

(a) Was there any evidence of any of the previously enumerated complications, on the patient's arrival home?

(b) If not, how soon, if at all, did any of them appear, and under what circumstances?

(c) Character and extent of contact between (1) supposed infecting patient, and (2) infected patient

(d) Facts bearing on the efficiency and completeness of disinfection of the patient previous to leaving hospital

9. List of persons in same household, giving age and sex in each instance, and whether they had slight sore throats at, or about, the time of removal of the first patient to hospital, or since

10. Size of house (number of rooms, etc.)

B. As to the supposed Infected Patient.

1. Name of patient
 age sex

2. Date of onset of attack

3. Whether living in same house as the supposed infecting patient

4. Character and extent of contact between (a) infected and (b) supposed infecting patient

5. Other possibilities of infection
6. Particulars as to the disease in the supposed infected patient.
 - (a) Character (mild, moderate or severe)
 - (b) Result (recovery or death)

2. DIPHTHERIA—HOME TREATED CASE.

CASE TREATED AT STREET.

A. As to the supposed Infecting Patient.

1. Name of patientage.....sex.
2. Date of onset of attack
3. Date on which isolation in one room was begun
4. Date on which isolation was discontinued
5. Date of onset of any of the following symptoms, and the latest date on which such symptoms were noticeable:—

	Date of appearance.	Date of cessation.	Whether present on discharge from isolation.
(a) Otorrhœa			
(b) Rhinorrhœa			
(c) Any eczematous condition around mouth, nostrils or ears			
(d) Enlarged cervical glands			
(e) Secondary sore throat occurring during convalescence.			
(f) Other complications or conditions having possible bearing on recurrent infection.			

6. Method of release from isolation, comprising full particulars as to disinfection of—

(a) Patient

(b) Patient's apparel

7. Nature and extent of disinfection carried out by the Sanitary Authority (or otherwise), at the patient's home, at the time of, or after, such patient's release from isolation (*e.g.*, number of rooms, bedding, clothing, toys books, &c):—

(a) Sanitary Authority

(b) Otherwise

8. History of the supposed infecting patient after being released from isolation.

(a) Was there any evidence of any of the previously enumerated complications when the patient was released from isolation?

(b) If not, how soon, if at all, did any of them appear, and under what circumstances?

(c) Character and extent of contact between (1) supposed infecting patient, and (2) infected patient

9. List of persons in same household, giving age and sex in each instance, and whether they had slight sore throats at, or about, the time of removal of the first patient to the hospital or since

.....

10. Size of house (number of rooms, etc.)

.....

.....

B. As to the supposed Infected Patient.

1. Name of patient
- age sex
2. Date of onset of attack
3. Whether living in same house as the supposed infecting patient
4. Character and extent of contact between (*a*) infected and (*b*) supposed infecting patient
-
-
5. Other possibilities of infection
-
6. Particulars as to the disease in the supposed infected patient.
- (*a*) Character (mild, moderate or severe)
- (*b*) Result (recovery or death)

One Scarlet Fever patient admitted in 1906 died in 1907.

Date of Death.	No. of days in Hospital before death occurred.	Cause of Death.
January 12th	30 days	Scarlet Fever Whooping Cough

The average length of stay in Hospital of the ten Enteric Fever patients who died was 19.5 days.

The average length of stay in Hospital of the five Diphtheria patients who died was 5.4 days.

TABLE LXXVIII.

The following Table shows the percentage of Diphtheria removals in Wards during 1906.

Wards	Percentages
St Stephen's	40·0
Trinity	35·0
St. Michael's	52·6
St. John's	18·1
St. Silas's	0·0
St. Paul's	26·6
St. Peter's	0·0
St. Mary's	57·1
St. Matthew's	16·6
St. Thomas's	66·6
Park	40·0
St. Luke's	50·0
St. Mark's	16·6
St. Andrew's	48·1

Table LXXIX.—DEATHS in the HOSPITAL during 1906.

No.	Date.	Name.	Age.	Length of Illness	Cause of Death.
1	Jan. 3.	J.W.	3 years.	Days. 27	Scarlet Fever. Meningitis.
2	„ 5.	E.C.	2 „	17	Scarlet Fever. Exhaustion.
3	„ 5.	M.M.	6 „	18	Scarlet Fever. Diphtheria. Exhaustion.
4	„ 6.	S.S.	2 „	3	Scarlet Fever. Exhaustion.
5	„ 15.	E.P.	4 „	33	Scarlet Fever. Measles. Exhaustion.
6	„ 28.	F.A.	15 „	3	Scarlet Fever. Nephritis. Exhaustion.
7	„ 28.	C.C.	4 „	4	Scarlet Fever. Exhaustion.
8	„ 31.	M.B.	2 $\frac{2}{3}$ „	28	Scarlet Fever. Exhaustion.
9	Feb. 13.	W.F.	2 „	39	Scarlet Fever. Measles. Pneumonia.
10	„ 14.	J.C.	6 „	3	Scarlet Fever. Exhaustion.
11	„ 26.	J.M.	1 $\frac{5}{8}$ „	8	Scarlet Fever. Rheumatism.
12	Mar. 3.	T.D.	3 „	41	Scarlet Fever. Mastoid Disease. Exhaustion.
13	„ 8.	E.F.	2 $\frac{5}{12}$ „	Less than 1 day.	Diphtheria. Laryngitis. Syncope.
14	„ 24.	J.D.	13 „	92	Enteric Fever. Phlebitis. Gangrene.
15	„ 25.	S.L.	3 $\frac{5}{12}$ „	59	Scarlet Fever. Phthisis. Exhaustion.
16	„ 27.	F.O.	2 $\frac{11}{12}$ „	16	Scarlet Fever. Meningitis.
17	April 4.	W.H.B.	7 „	7	Scarlet Fever. Septicaemia. Exhaustion.
18	„ 15.	J.S.	56 „	9	Enteric Fever. Congestion of Liver.
19	May 5.	H.H.	6 „	4	Scarlet Fever. Exhaustion
20	„ 6.	M.A.T.	1 $\frac{7}{12}$ „	18	Scarlet Fever. Broncho- Pneumonia
21	„ 11.	A.B.	2 $\frac{3}{4}$ „	11	Scarlet Fever. Cellulitis. Exhaustion.

TABLE LXXIX.—continued.

No.	Date.	Name.	Age.	Length	Cause of Death.
				of Illness	
22	May 13.	E. C.	3 $\frac{3}{4}$ years.	Days. 2	Diphtheria. Syncope.
23	„ 31.	W. O' C.	3 $\frac{3}{4}$ „	4	Scarlet Fever. Laryngitis. Broncho-Pneumonia.
24	June 3.	M. T.	1 $\frac{1}{2}$ „	4	Scarlet Fever. Exhaustion.
25	„ 13.	L. J.	5 $\frac{1}{2}$ „	3	Scarlet Fever. Exhaustion.
26	„ 23.	W. McK	6 „	10	Scarlet Fever. Exhaustion.
27	„ 24.	A. A.	28 „	22	Enteric Fever. Intestinal Hæmorrhage.
28	July 17.	T. B.	17 „	6	Enteric Fever. Pneumonia.
29	„ 25.	H. F.	2 $\frac{1}{2}$ „	10	Scarlet Fever. Exhaustion
30	Aug. 14.	S. H.	2 $\frac{3}{4}$ „	7	Scarlet Fever. Syncope.
31	Sep. 9.	E. W.	6 $\frac{1}{2}$ „	3	Diphtheria. Heart Failure.
32	„ 26.	R. E.	30 „	19	Scarlet Fever. Nephritis.
33	„ 28.	W. H.	13 „	7	Scarlet Fever. Exhaustion
34	Oct. 6.	W. W.	28 „	4	Enteric Fever. Pneumonia.
35	„ 18.	W. H. S.	20 „	16	Enteric Fever. Pneumonia.
36	„ 23.	R. W.	2 $\frac{1}{2}$ „	5	Scarlet Fever. Exhaustion
37	„ 25.	T. A.	9 „	7	Scarlet Fever. Exhaustion
38	„ 26.	M. W.	5 „	9	Scarlet Fever. Exhaustion
39	Nov. 2.	B. W.	56 „	2	Pneumonia. Syncope.
40	„ 3.	A. M.	4 „	6	Diphtheria. Syncope.
41	„ 11.	J. S.	46 „	3	Enteric Fever. Pneumonia.
42	„ 12.	R. M.	4 $\frac{2}{3}$ „	15	Diphtheria. Heart Failure.
43	„ 18.	W. A.	18 $\frac{5}{12}$ „	19	Enteric Fever. Peritonitis.
44	„ 28.	F. H.	6 „	40	Scarlet Fever. Diphtheria. Heart Failure.
45	„ 28.	L. H.	12 „	20	Enteric Fever. Pneumonia.
46	Dec. 27.	J. B.	32 „	4	Enteric Fever. Pneumonia.

TABLE LXXX.

The following bacteriological work has been carried out at the Fever Hospital Laboratory during 1906.

Material Examined.	Positive	Negative	Total
FOR DIPHTHERIA BACILLI :			
Throat Swabs.....	157	357	514
Nose Swabs... ..	8	5	13
Ear Swabs	1	1	2
Conjunctiva Swab	1	0	1
Teeth Swab.....	0	1	1
FOR TUBERCLE BACILLI :			
Sputa	83	230	313
Udders	27	5	32
Urines	0	2	2
Pus from Empyema	0	2	2
Supra-renal Capsule	0	1	1
FOR ANTHRAX BACILLI :			
Sheep's Lung	1	0	1
Sheep's Heart	1	0	1
Sheep's Muscle	2	0	2
Pig's Blood... ..	1	0	1
Bullock's Blood	1	0	1
Pig's Muscle	1	0	1
	284	604	888

CONVERSION OF PRIVY MIDDENS.

596 Privy Middens have been ordered by the Health Committee to be converted during the year, compared with 542 during 1905.

The immense superiority of the fresh-water carriage system is now generally recognised.

Several pail closets have also been converted to w.c.'s during the year.

It is also necessary again to draw attention to the great desirability of replacing the old brick ashpits which remain after privy middens have been converted, by portable ashbins of approved size and materials, and provided with covers.

SCAVENGING.

As I have stated before, it would be of the greatest advantage if there could be uniformity in size, materials, etc., of the ashbins. It is preferable that they should be constructed so that they could be lifted bodily into the cart, and thus avoid any soiling of the streets and back passages.

Wet ashpits emptied	5,903
Dry Ashpits emptied	160,027
Ashes Tubs emptied	450,285
Excreta Tubs emptied	609,701
Excreta Tubs Cleansed	609,561

3,273 Loads of Dry Ashes Refuse were tipped. No other Refuse tipped.

DESTRUCTORS.

An account of the four Destructors built and worked by the Corporation was given in my Annual Report for 1905.

The Refuse during 1906 was destroyed at the following
Destructors:—

<i>Audley Destructor.</i>	Tons.	Cwts.	Qrs.
Ashpit refuse	6,428	15	1
Midden refuse	1,629	19	2
Fish, carcases & market refuse	1263	3	1
	<hr/>		
Total	9,321	18	0
	<hr/>		

Greenbank Destructor.

Ashpit refuse	9,331	12	0
Midden refuse	171	12	2
Market refuse	49	9	0
	<hr/>		
Total	9,552	13	2
	<hr/>		

Wensley Fold Destructor.

Ashpit refuse	10,201	8	2
Market refuse	46	3	0
	<hr/>		
Total	10,247	11	2
	<hr/>		

Store Yard Destructor.

Ashpit refuse	1,957	9	2
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TABLE LXXXI.

REFUSE DESTROYED AT DESTRUCTORS, 1906.

Month	Ashpit Refuse			Midden Refuse			Fish, Carcasses, Market Refuse, &c.			Totals.		
	T.	C.	Q.	T.	C.	Q.	T.	C.	Q.	T.	C.	Q.
Jan	1994	8	0	189	10	2	115	11	0	2299	9	2
Feb.	2290	2	1	168	4	2	99	15	0	2558	1	3
Mch.	2860	15	0	231	17	2	103	6	1	3195	18	3
Apl.	2240	16	3	180	17	1	108	10	2	2530	4	2
May	2531	11	3	200	11	1	108	6	3	2840	9	3
June	2333	16	0	111	8	3	107	16	3	2553	1	2
July	2174	5	1	173	2	0	119	1	0	2466	8	1
Aug	1939	7	1	112	3	2	112	9	0	2163	19	3
Sept.	2203	6	3	104	11	3	95	19	3	2403	18	1
Oct.	2268	18	0	125	2	0	134	3	3	2528	3	3
Nov.	2682	2	0	76	11	1	125	1	3	2883	15	0
Dec	2399	16	1	127	11	3	128	13	3	2656	1	3
Totals	27919	5	1	1801	12	0	1358	15	1	31079	12	2

SEWAGE DISPOSAL.

The following is a brief account of the method of dealing with Blackburn Sewage, for which I am indebted to the Borough Engineer:—

The larger portion of the Sewage of the Borough is collected by gravitation at Witton, where it is screened and passed through catchpits to remove the sand and rags which have obtained access to the sewers. It then travels to Samlesbury, a distance of $4\frac{1}{2}$ miles, in duplicate cast-iron pipe syphons and brick tunnels. A portion of the sewage from the low-lying districts was until recently lifted by hydraulic pumps into the out-fall conduit. These having become inadequate for the volume of sewage from this district, they have been replaced by new centrifugal pumps, working electrically, at a new pumping station erected near Feniscliffe Bridge. Another main conduit takes the sewage from the Beardwood district to Samlesbury.

On arriving at Samlesbury the sewage is either treated by the bacterial system or by chemical precipitation, with sludge pressing and land irrigation. The portion undergoing the latter treatment passes through a screen chamber and drives a water-wheel, thus supplying power for mixing the precipitant and driving a dynamo for generating light at the works. About 6grs. per gallon of precipitant is then added, and the sewage enters the tanks, of which ten are now used, each 120ft. x 40ft., 6 more of which are at present being used as septic tanks in conjunction with the bacteria process. From the precipitation tanks the sewage passes to the land for irrigation, 400 acres being used for this purpose, and the effluent eventually finds its way to the river. The sludge is gravitated to two reservoirs, mixed with lime and forced by rams actuated by compressed air into sludge presses, which form about 220 tons of cake per week. This is removed by band conveyors, and farmers now

readily cart it away. Although a small charge is made for the same, its value as a manure is becoming better recognised in the district.

The six septic tanks receive the crude sewage from the outfall conduit and hold about $1\frac{1}{4}$ million gallons, which pass thence to 24 bacteria beds, each measuring 120ft. x 60ft. x 4ft. 6in. deep. The sewage is distributed over these beds by perforated wooden troughs or earthenware pipes laid upon the graded clinker or iron slag with which the beds are filled. The beds are capable of dealing with $1\frac{1}{2}$ million gallons of the normal flow of sewage per 24 hours.

As a further extension of this system, the Sewage Committee has completed two detritus tanks and a divided septic reservoir to hold $6\frac{1}{4}$ million gallons, and are constructing 24 circular beds, 9ft. in height and 80ft. in diameter, built of rubble stone and filled with graded stone and clinker. The septic tank effluent will be distributed over the upper surface of these beds by revolving sprinklers worked by the head of sewage. The effluent from these beds will require a slight further purification, which will be effected by passing through "roughing" filters, eight in number, and measuring 180ft. x 40ft., filled with small clinker or stone chippings, to a depth of 3ft. 6in.

Three sprinkler beds are now complete, and several more will shortly be ready for work.

WATER SUPPLY.

Blackburn has fortunately an excellent water supply. It is a moorland water, coming from the Brennand and Whitendale Valleys, about 20 miles from the Borough.

ANALYSES OF WATER.

I am indebted to Dr. Pickard for the following results:—

TABLE LXXXII.

Where Taken.	House in	Main at Technical School.		
	Dukes Brow.			
Date	23/1/06	19/6/06	8/10/06	10/12/06
Total Solids	4·80	6·76	6·84	5·36
Including Volatile Matter	0·80	3·56	3·24	2·33
Chlorides in terms of Chlorine	1·1	1·1	1·0	1·0
Saline Ammonia	0·001	nil	0·002	0·0038
Organic Ammonia	0·0074	0·007	0·019	0·016
Nitrogen as Nitrates.....	0·041	0·033	0·033	0·025
Permanent Hardness ...	3·51	4·60	4·03	3·90
Temporary Hardness ...	0·52	0·24	0·13	0·30

All the results are in parts per 100,000.

Other samples have been analysed during the past year, but the above are representative ones.

I am indebted to the Borough Engineer for the following records of rainfall during 1906 in connection with the Blackburn Corporation Waterworks:—

Table LXXXIII.—RAINFALL at the following Stations in the Counties of Lancaster and York.

DATE.	LANCASHIRE.										WEST RIDING OF THE COUNTY OF YORK.					
	Blackburn Waterworks Office. Elevation 446 Gauge 646. above ground	Blackburn Corporation Store Yard Elevation 373	Blackburn High Level Pumping Station. Elevation 600	Witton Elevation 315	Corporation Park, Elevation 550	Guide Elevation 650	Daisy Green Elevation 969	Pickup Bank Elevation 720	Holeston Elevation 680	Sambury Sewage Works.	Dunsop Houses Elevation 450	Benmand Elevation 820	Whitdale Elevation 830	Cabinhill Elevation 1559	Middle Knoll Elevation 1296	Baxton Fell Elevation 1540
1906.																
January	3.40	4.86	5.10	5.23	5.35	5.07	6.65	6.66	7.20	4.28	9.22	10.97	11.38	8.30	6.60	7.70
February	2.30	2.14	3.98	3.57	3.24	2.80	4.45	4.40	4.91	2.81	5.13	4.98	5.47	3.40	3.90	3.60
March ...	2.46	2.51	3.67	3.46	3.46	2.36	3.89	3.81	4.08	3.13	6.63	6.65	6.67	2.60	2.00	5.40
April ...	1.88	1.39	1.86	2.10	2.10	2.14	2.28	2.19	2.35	1.81	2.44	2.58	2.29	2.10	1.50	1.70
May ...	3.65	3.62	4.05	3.90	4.19	4.33	4.55	4.40	4.46	4.41	6.96	7.98	8.14	7.80	6.50	7.20
June	1.10	1.26	1.77	1.73	1.58	1.41	1.30	1.21	1.31	1.86	2.58	3.68	2.98	4.50	2.60	2.70
July	1.97	1.89	2.90	2.38	2.73	2.14	2.30	2.19	2.49	2.13	3.18	4.32	4.07	4.80	2.80	3.40
August ...	3.12	3.50	4.22	3.54	3.97	3.21	4.23	4.11	4.51	4.11	6.19	7.25	7.09	7.70	5.30	6.40
Sept'ber	.89	1.01	1.39	1.34	1.14	1.35	1.63	1.55	1.74	1.20	2.48	2.83	2.94	2.70	2.60	2.50
October	5.01	5.08	6.61	6.54	6.46	7.50	7.99	7.66	7.90	6.46	11.27	11.58	11.74	10.40	10.20	10.50
Nov'ber	3.19	3.65	4.20	4.62	4.27	4.27	4.87	4.95	5.07	3.61	5.69	6.57	7.14	7.60	6.10	6.30
Dec'ber	3.03	3.36	4.79	5.40	4.53	3.71	4.83	4.76	5.14	3.84	5.34	7.34	8.00	6.80	5.50	5.60
Totals for 1906	31.40	34.27	44.55	43.81	43.02	40.29	48.97	47.97	51.06	39.65	67.11	76.73	77.91	68.70	55.60	63.00

AVERAGES FOR TEN GAUGES :—42.49.

AVERAGES FOR SIX GAUGES :—68.17.

RAINFALL IN																
1905.....	24.46	28.35	34.73	33.39	35.38	30.80	40.72	40.46	42.23	31.70	54.02	63.85	61.72	60.30	50.40	51.90
1904.....	25.22	31.10	34.88	35.00	35.84	30.39	40.95	40.59	43.21	32.22	55.69	63.85	62.31	55.29	46.00	51.60
1903.....	38.82	44.76	50.42	52.28	52.08	44.02	57.05	56.79	61.43	—	83.43	86.34	89.94	75.10	76.30	77.40
1902.....	28.18	31.48	38.76	37.98	37.75	32.80	40.72	38.88	42.38	—	49.50	61.22	58.92	57.73	46.35	47.51
1901.....	52.36	29.84	33.83	34.97	34.51	30.94	39.74	37.30	45.44	—	49.61	59.20	62.92	49.50	45.00	55.40
1900.....	—	36.05	—	43.37	43.77	44.42	49.32	48.98	53.52	—	63.98	70.16	70.43	61.35	65.55	61.65
1899.....	35.61	33.67	42.11	40.85	40.78	37.33	41.43	46.67	63.50	—	60.17	61.34	64.39	57.26	51.10	54.10
1898.....	28.57	29.79	35.16	39.97	—	38.04	41.00	43.13	54.27	31.24	61.27	67.96	76.35	75.50	57.28	59.80
1897.....	35.98	36.34	42.27	45.42	—	43.44	53.43	54.49	57.42	38.35	70.21	73.64	78.98	68.00	61.30	62.45
1896.....	32.70	33.34	40.82	41.89	—	40.84	55.10	54.36	56.80	31.40	60.18	73.24	70.52	56.85	52.85	56.45
1895.....	29.65	31.44	38.80	37.51	—	34.70	46.91	45.68	62.64	22.24	56.61	64.40	64.94	52.48	49.95	54.43
1894.....	25.69	31.49	40.73	41.54	—	38.15	51.18	48.42	71.31	32.26	71.36	76.68	77.40	63.87	57.55	61.8c
1893.....	30.90	32.79	40.20	39.99	—	39.24	45.41	43.79	48.80	36.56	63.83	69.06	74.86	64.62	54.15	50.12
1892.....	29.22	33.63	40.93	40.73	—	38.50	48.93	45.06	48.97	43.02	64.07	70.50	72.21	59.41	51.81	58.06
1891.....	28.34	34.70	39.57	45.48	—	40.07	66.01	53.32	60.24	46.90	66.20	75.36	77.41	69.40	58.80	56.40
1890.....	31.60	35.56	42.34	44.60	—	38.40	63.23	46.36	53.97	42.73	66.66	78.44	82.47	73.35	57.53	54.81
1889.....	25.26	29.78	37.08	36.43	—	34.22	44.35	42.63	47.34	35.44	59.06	66.78	69.79	64.26	56.32	47.37
1888.....	23.51	28.29	37.47	35.81	—	31.34	39.57	40.27	43.41	31.90	56.38	66.25	66.26	62.69	52.30	49.91
1887.....	19.39	22.92	29.16	28.30	—	26.05	30.96	32.13	33.50	25.42	45.21	46.80	47.88	43.94	36.69	30.68

Sam'sbury
St. Hubert
Farm.

Pleasanton

ANALYSIS OF WATER.

Made by Mr. Collingwood Williams.

Sample taken from a water tap supplying a house in
Irving Place.

Results expressed in parts per 100,000.

Total solid matter in solution	5.4
Total solid matter in suspension	0.0
Ammonia .....	.002
*Ammonia from organic matter by distillation with alkaline permanganate .....	.015
Oxygen absorbed from permanganate:—	
(a) in 15 minutes .....	.094
(b) in 3 hours .....	.197
Nitrogen as Nitrates and Nitrites .....	.00
Combined Chlorine .....	.9

*Commonly called Albumenoid ammonia."

The sample had no unpleasant taste or smell, and has the character of a well-filtered upland surface water.

The colour is rather high, indicating, along with the figures for "albumenoid ammonia" and "oxygen absorbed," a good deal of organic peaty matter in solution.

The taste of such water is not liked by some persons used to water of a different origin.

DISINFECTANTS.

The following quantities of Disinfectants have been used during 1906:—

1. Izal, 72 gallons (Fever Hospital).
2. Chloros, 1,360 gallons.
3. Chloride of Lime, 9 tons 11 cwts. 3 qrs. 1 lb.
4. Sanitary Dry Lime, 4,800, 7lb. bags.
5. Carbolic Powder, 70 gross, 1lb. dredgers.

The total cost of the above Disinfectants was £284 7s.10d.

HOUSE DRAINAGE.

Special attention has again been given to this work during the year, and one Inspector devotes his whole time to House Drainage.

The House Drainage Register forms a valuable record of work carried out.

It contains the following particulars:—

Date

House

Complaint

Name and Address of Landlord

Date of Testing

Date of Notice

Work Ordered

Result of Visiting

Date and Result of Re-testing

A large number of visits have been paid to work in progress, and in many instances several water tests were required to be made by the Inspector before the drains could be passed. Had this work not be inspected and tested before the drains were covered I have no doubt that in several instances the results would have been most unsatisfactory. Landlords and property agents could prevent much bad drainage by employing only men who understand this work.

The public now appreciate the importance of sound drainage much more than they did formerly. Many requests were made to me during the year by ingoing tenants, to all classes of houses, that the drains should be tested before they began to reside in them.

The following instances are interesting as showing types of defective drainage which were discovered during the year :—

- I. A complaint was made at my Office that there were offensive smells in a certain house. The Inspector visited, and on examination found in an ordinary small yard an old cesspool in a very filthy condition. The bath waste pipe and slop pipes discharged into this cesspool, which had a direct communication with the sewer in the adjoining back road. Sewer gas, therefore, had access to the house, causing the nuisance complained of. The defects were remedied by new drainage, with inspection chamber, etc.

- II. A complaint was made by the tenant of a certain house that he was often ill, the chief symptom being a sore throat. The interior of the house was examined, but the cause could not be discovered there. The smoke test was applied to the drains outside, and large volumes of smoke issued through the foundations into the scullery and living kitchen. On removing several flags in the yard, a large cavity was found where there should have been a properly trapped gully. but where instead, there was a four-inch drainpipe fixed into a six-inch pipe, and allowing direct communication between the sewer and the

interior of the house. Notice was sent to the owners, and the premises were re-drained in an approved manner. This case necessitated no less than nine water tests and 14 visits by my Inspector before the work was completed.

- III. On receipt of another complaint of offensive smells, a sample of very careless workmanship was discovered. The connection between the soil pipe had been made with clay instead of cement. The clay was not strong enough to withstand the pressure of water, and gave way. This resulted in the formation of a large cavity beneath and around the foundations of the house. The earth beneath the drains also was washed away to such an extent that they collapsed. Thus foul material collected in large quantities and caused the nuisance. The defects were remedied by relaying the drains upon a good bed of concrete.

Many other instances might be given, but the foregoing are sufficiently illustrative of the importance of this branch of the Health Department.

During the year 1906, 450 drains were inspected, necessitating the application of the smoke test in 526 cases and of the water test in 309 cases.

361 drains were found defective, and of these 264 were relayed throughout and stood the water test.

During the relaying and repairing of drains 817 visits were made, including 635 water tests.

The following statement shows in detail the drainage work which has been carried out during the year:—

DRAINAGE, 1906.

No. of Drains inspected	450
„ Typhoid Fever	69
„ Diphtheria	158
„ Complaints	131
„ Drains tested by request of owners or new tenants	83
„ Other causes	9
„ Letters from the Medical Officer of Health	328
„ Preliminary notices served	41
„ Legal notices served	8
„ Visits to work in progress	817
„ Drains tested (a) Smoke	526
„ „ (b) Water	635
„ Examined apart from above (a and b) ...	309
„ Drains traced for leakage with coloured solution	101
„ Drains found defective	361
„ Drains relayed throughout and stood the water test	264
„ Drains partly relayed and stood the water test (short lengths)	63
„ Defective gullies replaced	295
„ New lip dishstones provided	325
„ Inspection chambers provided	125
„ Slop-water closet drains opened and cleansed	20
„ Downspouts repaired	208
„ Soil-pipes replaced or repaired	69
„ Surfaces of yards flagged after drains relayed	128
„ Surfaces of yards repaired after drains relayed	98
„ Pail-closets converted to W.C.'s	19
„ Sink-pipes repaired	137
„ Useless drains removed from cellar premises	8
„ Slop-water closets converted to pedestal wash-downs	8
„ Flushing apparatus repaired	113
„ New pedestal wash-downs provided	107

In connection with drainage work, the following notice was delivered to a large number of houses in the borough:—

COUNTY BOROUGH OF BLACKBURN.

NOTICE TO TENANTS.

Gulleys in back yards, etc., are often blocked because they need cleaning out.

As these gulleys are connected with drains it is very important that they should be emptied at least once in every month.

After the sediment has been taken out, a bucketful of clean water should be poured down the gulley.

No sediment should be put into the ashpit until it is dry, and mixed with Chloride of Lime.

Disinfectants may be obtained at the Health Office (from the back entrance off Cort Street) between the hours of 10 to 12 and 2 to 4.

Persons allowing gulley traps to be blocked are liable to be prosecuted.

ALFRED GREENWOOD, M.D., D.P.H.,

Medical Officer of Health.

Public Health Office,

51, Ainsworth Street.

COMMON LODGING-HOUSES.

During 1905 a special report dealing with the present common lodging-house accommodation, and with the provision of a Municipal Artisans' Dwelling in Blackburn, was prepared and presented to the Health Committee.

The Town Council have decided to erect such a Dwelling on the vacant space of land in Penny-street

Plans have been prepared on the principle of the Rowton Houses, and the building will probably be commenced at an early date.

There are 21 Registered Common Lodging-houses in Blackburn, with accommodation for 910 adults and 20 children.

Some of these Common Lodging-houses require alterations.

HOUSES LET IN LODGINGS.

The need for further powers regarding houses let in lodgings is frequently evident in this town. These houses are apt to be sub-divided in such a way as to lower their general sanitary condition, particularly by interfering with efficient through ventilation. For example, the front room downstairs may be let to one family, and the back room to another family. Under these circumstances the door connecting the two rooms is often kept locked, thus converting the ground floor into a back-to-back house.

It is desirable that power should be given to the Medical Officer of Health to approve or disapprove of any house before it could be let to more than one family. An annual re-registration of such houses would also be an advantage.

During the year I have had all the houses let in lodgings examined in detail, and at the end of this report will be found an interesting table showing the results of this inspection.

INSANITARY PROPERTY.

Houses ordered to be closed:—

- 1, 3, 5, Cannon Street.
 5, 7, Engine Street.
 85, 97, 99, 101, 103, King Street.
 105, 121, 123, King Street.
 7, 9, Blakey Moor.
 7, 6, Cooks Yard.
 4, 6, 7, Hope's Court.
 25 to 43, Water Street.
 7, 9, Bolton's Court.
 48, Tontine Street.
 10, 12, Chapel Street.
 3, 4, 5, 9, 14, 19, 20, Jack Croft.
 21, 22, 24, 25, 26, 27, Jack Croft.
 8, 10, 12, and Shop, Dugdale Street.
 79 to 87, Nab Lane.

Houses ordered to be altered to the satisfaction of the
 Medical Officer of Health, or closed:—

- 1, 2, 3, 4, Fecitt Brow.
 2, 8, 10, 12, 14, Shadsworth.
 106, 108, 112, King Street.
 1, 3, 5, Leyland Street.
 1, 3, 5, 7, 9, 11, 13, Little Peel Street.
 80, Fisher Street.
 41, Birley Street.
 8, 10, 12, and Shop, Dugdale Street.
 79 to 87, Nab Lane.

Houses demolished:—

18. 20, Mount Pleasant.
 134, 136, 138, 140, Wensley Street.
 142. 144, 146. 148. Wensley Street.
 150, 152, 154, 156, Wensley Street.
 158. 160. Wensley Street.
 1, 3, 5, 7, 9, Spring Street.
 116a and 116b King Street.

SYSTEMATIC INSPECTIONS.

The Local Government Board require that the Medical Officer of Health, in reporting his proceedings and advice, should put on record whether he has made systematic inspections of his district. By "systematic inspections" are meant inspections independent of such inquiries as the Medical Officer of Health may have to make into particular outbreaks of disease, or into unwholesome conditions to which his attention has been specially called by complaints or otherwise; and such inspections will include the house-to-house inspections which may be necessary in particular localities.

In the Annual Report for 1903 a statement was made, giving a description of the four districts into which the Borough has been divided, so that one of the four District Inspectors could be attached to each.

For Census purposes the Borough has been divided into three districts, namely, Northern, Southern, Witton and Livesey.

Each of these three districts has been divided into Enumeration Districts (see Map). Thus the Northern Division has been divided into 60 Enumeration Districts, the Southern Division into 49 Enumeration Districts, and Witton and Livesey Division into 21 Enumeration Districts.

Such an arrangement greatly facilitates not only the systematic inspections, but also the keeping of records of such inspections.

The following is a statement of the systematic inspections which have been carried out by the four District Inspectors during 1906. In addition, of course, large numbers of visits have been made in answer to complaints received, and also in reference to notifiable and non-notifiable infectious diseases.

DISTRICT No. 1.

ENUMERATION DISTRICT.—22 SOUTHERN.

<i>Name of street.</i>	<i>No. of houses inspected.</i>
2 to 44 William Hopwood Street	22
46 to 72 William Hopwood Street	14
2 to 6 Mary Street	3
40 to 68 Mary Street	15
13 to 69 Audley Lane	29
3 to 37 Shakeshaft Street	18
4 to 36 Shakeshaft Street	17
2 to 46 Cumberland Street	23
52 to 78 Cumberland Street	14
62 to 120 Lambeth Street	30
1 to 31 Cumberland Street	16
1 to 23 William Jackson Street	12

ENUMERATION DISTRICT.—23 SOUTHERN.

2 to 70 Bottomgate	35
1 to 11 Lambeth Street	6
68 to 88 Pendle Street	11
63 to 111 Pendle Street	25
2 to 104 Newton Street	52
57 to 91 Skiddaw Street	18
74 to 88 Skiddaw Street	8
2 to 22 Dalton Street	11
1 to 27 St. Thomas's Terrace	14

<i>Name of street.</i>	<i>No. of houses inspected.</i>
185 to 195 Audley Range	6
1 to 31 St. Thomas's Street	16
43 to 77 St. Thomas's Street	18
38 to 54 Billinge Street	9
59 and 59a Billinge Street	2
2 to 10 St. Thomas's Street	5
72 to 86 St. Thomas's Street	8
2 to 10 Rivington Street	5
2 to 8 Acorn Street	4
197 to 237 Audley Range	21
239 to 317 Audley Range	40
8 to 82 Cherry Street	38
1 to 23 Newton Street	12

DISTRICT No. 2.

ENUMERATION DISTRICT.—55 NORTHERN.

40 to 96 Moss Street	28
129 Union Buildings	1
29 to 83 Daisy Street	28
74 Peter Street	1

ENUMERATION DISTRICT.—56 NORTHERN.

98 to 128 Moss Street	16
92 to 104 Daisy Street	7
87 to 117 Daisy Street	16
2 to 14 Ross Street	7
1 to 5 Ross Street	3

ENUMERATION DISTRICT.—57 NORTHERN.

130 to 168 Moss Street	20
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ENUMERATION DISTRICT.—37 NORTHERN.

3 to 25 Marsh Street	12
124 Wimberley Street	1

ENUMERATION DISTRICT.—17 NORTHERN.

<i>Name of street.</i>	<i>No. of houses inspected.</i>
149 to 171 Whalley Old Road	12
181 to 205 Whalley Old Road	13
3 Beardsworth Street	1
2 to 92 Beardsworth Street	46
17 to 29 Bay Street	7
22 to 36 Bay Street	8
2 to 12 Lettice Ann Street	6
16 to 44 Lettice Ann Street	16
3 to 41 Rydal Road	21
2 to 14 Rydal Road	7
1 to 7 Wareham Street	4
2 to 18 Wareham Street	9
16 to 26 Railway View	6
2 to 22 Alder Street	11
1 to 21 Elm Street	11
2 to 22 Elm Street	11
1 to 45 Warrington Street	22

DISTRICT No. 3.

ENUMERATION DISTRICT.—30 NORTHERN.

9 to 113 Greaves Street	53
2 to 8. 16 to 26 Addison Street	10
2 to 138 Mary Ann Street	70
1 to 91 Mary Ann Street	43
3 Back Adelaide Street	1
10 to 24 Back Mary Ann Street	8
2 to 56 George Street West	56
10 to 40 Adelaide Street	16
37 to 67 Leyland Street	28
39 to 59 Montague Street	10

PART OF ENUMERATION DISTRICT—48 NORTHERN.

79 to 87 Nab Lane	4
1 to 13 Little Peel Street	7
8 to 12 (and shop) Dugdale Street	3

ENUMERATION DISTRICT...7 WITTON & LIVESEY.

<i>Name of street.</i>	<i>No. of houses inspected.</i>
2 to 24 Railway View	12
1 to 19 Mill Hill Street	10

DISTRICT No. 4.

ENUMERATION DISTRICT.—31 SOUTHERN.

1 to 29 Kemp Street	15
1 to 15 Smalley Street	8
128a to 144 Grimshaw Park	10
114 Grimshaw Park	1
1 to 45 Rockcliffe Street	23
1, 2, 3, 4, 5, 6, Everton	6
40 Roman Road	1
2 to 72 Kemp Street	36
83 to 127 Rockcliffe Street	23

ENUMERATION DISTRICT.—37 SOUTHERN.

1 to 23 Fox Street	12
32 to 50 Park Road	10
1 to 25 Great Bolton Street	13
5 to 13 Nelson Street	5
20 Howard Street	1
33 to 59 Fox Street	14
51 to 53 Russell Street	2
52 to 80 Park Road	20
2 to 28 Park Road	9

ENUMERATION DISTRICT.—38 SOUTHERN.

11 to 47 Bolton Road	19
4 to 42 Troop Street	20
12 to 40 Kay Street	15
2 to 4 Hopwood Street	2
1 to 15 Commercial Street	8
49 to 119 Bolton Road	36

<i>Name of street.</i>	<i>No. of houses inspected.</i>
2 to 20 Eccles Street	10
1 to 31 Eccles Street	16
2 to 28 Prince Albert Street	14
6 to 12 School Street	4
3 to 25 Prince Albert Street	12
6 to 12 Commercial Street	4
33 to 47 Eccles Street	8
9 Highfield Road	1
46 to 58 Eccles Street	7
26 to 30 Hutchinson Street	3
2 to 26 Bell Street	13
34 Russell Street	1
2 to 26 Oldham Street	13
1 to 23 Oldham Street	12

ENUMERATION DISTRICT.—27 NORTHERN.

2 to 22 Simmons Street	11
32 to 52 Alma Street	11
5 to 41 Preston New Road	19
23 to 33 Alma Street	6
2 to 6 Bathurst Street	3
24 to 42 New Park Street	10
24 and 34 Simmons Street	2
39 to 41 Northgate	2
8 to 16 Blakey Moor	5
3 to 9 Blakey Moor	4
13 to 35 Northgate	12
2 to 24 Lord Street West	12
2 to 4 Barton Street	2
7 to 13 Lord Street West	4
5 to 9 Corporation Street	3
2 to 8 Corporation Street	4
1 to 11 Bathurst Street	6
35 to 43 Alma Street	5
43 to 51 Preston New Road	5
1 to 21 Alma Street	11
2 to 20 New Park Street	10

<i>Name of street.</i>	<i>No. of houses inspected.</i>
2 to 22 Alma Street	11
72 to 84 Blakey Moor	7
40 to 54 Queen Street	8
1 to 17 Simmons Street	9
76 to 82 Blakey Moor	7

ENUMERATION DISTRICT.—35 SOUTHERN.

12 to 68 Infirmary Street	29
18 to 22 Ivy Street	3
30 to 38 Ivy Street	5
70 to 104 Infirmary Street	18
138 Mosley Street and 2 to 36 Walsh Street	19
140 Mosley Street and 1 to 27 Walsh Street	15
1 to 23 Dyson Street	12
2 to 18 Dyson Street	9
140a to 150 Mosley Street	6
1 Southworth Street and 13 to 39 Infirmary Road	15
37 to 45 Ivy Street	5
193 to 257 Mosley Street	33
106 Infirmary Street, and 106 to 158 Abraham Street	28
108 to 136 Infirmary Street	15
1 to 11 Meta Street	6
2 to 14 Meta Street	7
1a to 9 Southworth Street	5
6 to 84 Pritchard Street	40
1 to 27 Infirmary Road	14
2 to 28 Southworth Street	14
3 to 7 Longshaw Lane	3
3 to 9 Pritchard Street	4
6 Houses in Infirmary Road	6

ENUMERATION DISTRICT.—49 SOUTHERN.

<i>Name of street.</i>	<i>No. of houses inspected.</i>
22 to 68 Bolton Road	23
3 to 9 Hargreaves Lane	4
1 Hargreaves Lane	1
72 to 80 Bolton Road	5
4 to 8 Iron Street	3
82 to 94 Bolton Road	7
4 to 26 Sharples Street	12
19 to 35 Sharples Street	8
1 to 13 Pomfret Street	7
96 to 106 Bolton Road	6
2 to 12 Lower Hollin Bank Street	6
110 to 116 Bolton Road	4
2 to 4 Boothman Street	2
1 to 33 Lower Hollin Bank Street	17
14 to 32 Lower Hollin Bank Street	10

ENUMERATION DISTRICT.—34 SOUTHERN.

7 to 63 Infirmary Street	29
2 to 18 Ivy Street	10
9 to 33 Ivy Street	13
2 to 30 Disraeli Street	15
65 to 77 Infirmary Street	7
20 to 28 Hall Street	5
1 to 35 Disraeli Street	18
2 to 40 Leach Street	20
33 to 35 Abraham Street	2
1 to 39 Leach Street	16
44 to 78 Hall Street	18
79 to 83 Infirmary Street	3
102 to 134 Mosley Street	17
38 to 40 Hall Street	2
161 to 187 Mosley Street	14
42 Hall Street	1
64 to 96 Abraham Street	17
85 to 125 Infirmary Street	21

DEATH-RATES IN THE ENUMERATION DISTRICTS.

It is interesting to compare the annual death-rates in the various Enumeration Districts of the Borough.

They vary from 4.4 in District No. 14 of the Witton and Livesey Division to 53.4 in District No. 1 of the Southern Division.

A map has also been prepared showing the number of each Enumeration District, together with its death-rate for 1906.

This Table and Map will be found at the end of the Report.

The following correspondence was received during the year respecting alterations in certain districts of Blackburn:—

[Copy.]

Local Government Board,

Whitehall, S.W.

Sir,

I am directed by the Local Government Board to transmit to the Council of the County Borough of Blackburn the accompanying copy of a letter which has been addressed to the Board by the Registrar-General, and to state that they propose to sanction the suggested alterations of Blackburn Southern and Blackburn Western Registration Sub-Districts.

I am, Sir,

Your obedient Servant,

H. C. MONRO,

Assistant Secretary.

The Town Clerk, Blackburn.

[Copy.]

General Register Office,
Somerset House,
London, W.C.

Sir,

2nd March, 1906.

I am directed by the Registrar-General to advert to his letter addressed to you on 7th July last, requesting the Statutory sanction of the Local Government Board to his issue of an Order altering the boundaries of certain Sub-districts of Blackburn Registration District, and constituting a new Sub-district, to be called and known as Blackburn Western Sub-district, and to consist of St. Andrew and St. Mark's Wards of Blackburn County Borough.

Your Board in due course sanctioned the Registrar-General's proposal, and he accordingly issued his Order dealing with this matter. A vacancy in the office of Registrar of Births and Deaths for Blackburn Southern Sub-district, however, presents, in his opinion, a favourable opportunity for a further improvement in the boundaries of Sub-districts, and I am to request the sanction of your Board, under the provisions of the 21st Section of the Act, 37 and 38 Vict., cap. 88, to the issue of an Order by the Registrar-General transferring St. Luke's Ward of Blackburn County Borough, containing in 1901 a population of 8,811, from the Sub-district of Blackburn Southern to that of Blackburn Western.

I am to add, for the information of your Board, that the Registrar-General's proposal has the full concurrence of the Blackburn Board of Guardians.

I am, Sir,

Your obedient Servant,

(Signed) A. C. WATERS.

Chief Clerk.

The Secretary, Local Government Board.

ECONOMIC VALUE OF A REDUCED DEATH-RATE.

It has been shown that each member of the community has a definite money value based upon the power of earning wages.

The value in the case of each male has been estimated by taking as the standard a labourer, and capitalising the wages earned by him. The means of subsistence being deducted.

The average net value of each male life is found to be £150. Assuming that one-half of the 324 lives gained in 1906, on the average of the previous ten years, were males, there would be a net gain to the wealth of the community of £24,300.

Assuming also that the remaining 162 female lives were also equal to a certain money value, the net gain would exceed this sum.

TABLE LXXXIV.

NAME OF DISEASE	1896	1897	1898	1899	1900	1901	1902	1903	1904	1905	Average 1896 to 1905	1906
Cancer	0.65	0.57	0.74	0.63	0.77	0.71	0.69	0.70	0.81	0.85	0.71	0.80
Diarrhoea	0.84	1.19	1.59	0.87	1.33	1.04	0.53	0.76	0.94	0.70	0.97	1.28
Respiratory Diseases..	3.98	4.13	3.70	4.65	4.95	3.82	3.56	3.41	3.79	3.10	3.90	2.73
Measles	0.29	1.14	0.38	0.31	0.59	0.73	0.58	0.40	0.45	0.31	0.51	0.47
Erysipelas	0.05	0.04	0.04	0.03	0.02	0.02	0.02	0.007	0.02	0.01	0.02	0.06
Diphtheria	0.08	0.04	0.25	0.58	0.71	0.48	0.17	0.19	0.08	0.24	0.28	0.19
Scarlet Fever	0.06	0.05	0.12	0.10	0.65	0.45	0.22	0.09	0.09	0.57	0.24	0.24
Typhoid Fever	0.26	0.28	0.23	0.31	0.23	0.13	0.17	0.11	0.15	0.11	0.19	0.10
Whooping Cough	0.36	0.64	0.03	0.41	0.41	0.17	0.17	0.10	0.72	0.08	0.30	0.12
Old Age	0.75	0.95	0.77	0.98	0.75	0.77	0.82	0.96	1.15	1.04	0.89	1.07
Influenza	0.15	0.30	0.19	0.23	0.64	0.15	0.20	0.20	0.12	0.15	0.23	0.16
Premature Birth	0.53	0.56	0.61	0.67	0.74	0.53	0.53	0.63	0.60	0.50	0.59	0.53
Nervous Diseases	2.15	1.97	2.21	1.98	2.07	1.79	1.55	1.41	1.44	1.52	1.80	1.71
Digestive Diseases	1.65	1.69	2.59	1.83	1.22	1.13	0.73	0.56	0.59	0.63	1.26	0.58
Urinary Diseases	0.40	0.35	0.33	0.48	0.51	0.54	0.46	0.44	0.52	0.58	0.46	0.32
Phthisis	1.14	1.19	1.22	1.20	1.16	1.17	1.25	0.93	0.94	1.06	1.12	0.92
Heart Diseases	1.29	1.45	1.29	1.41	1.32	1.25	1.28	1.44	1.47	1.16	1.33	1.39
Other Tubercular Diseases (excluding Tabes Mesenterica)	0.33	0.28	0.22	0.35	0.39	0.44	0.57	0.48	0.34	0.42	0.38	0.44
Tabes Mesenterica	0.25	0.43	0.27	0.15	0.37	0.27	0.18	0.21	0.30	0.20	0.26	0.25
Ill-defined	1.11	1.29	1.63	1.46	1.43	0.85	0.94	0.57	0.37	0.85	1.05	0.63
Violence	0.50	0.42	0.40	0.57	0.55	0.52	0.47	0.45	0.43	0.45	0.47	0.51

Table showing gains and losses in the death-rate per 1000 persons living in the year 1906, as compared with the average rate of ten years 1896-1905:—

TABLE LXXXV.—GAINS.

NAME OF DISEASE.	Average rate during 10 y'rs 1896-1905.	Rate during 1906.	Gains per 1000	Probable No. of lives gained.
All Causes	18·68	16·41	2·27	324
Scarlet Fever	0·24	0·24	0·00	0
Respiratory Diseases..	3·90	2·73	1·17	167
Measles	0·51	0·47	0·04	6
Diphtheria	0·28	0·19	0·09	13
Typhoid Fever ...	0·19	0·10	0·09	13
Influenza	0·23	0·16	0·07	10
Premature Birth	0·59	0·53	0·06	8
Nervous Diseases	1·80	1·71	0·09	13
Digestive Diseases ...	1·26	0·58	0·68	97
Phthisis	1·12	0·92	0·20	28
Tabes Mesenterica ...	0·26	0·25	0·01	1
Ill-defined	1·05	0·63	0·42	60
Urinary Diseases	0·46	0·37	0·09	13
Whooping Cough ...	0·30	0·12	0·18	26
Gross Gains ...	...	...	3·19	455

LOSSES.

NAME OF DISEASE.	Average rate during 10 y'rs 1896-1905	Rate during 1906.	Losses per 1000	Probable No. of lives lost
Cancer	0·71	0·80	0·09	13
Diarrhœa	0·97	1·28	0·31	44
Violence ...	0·47	0·51	0·04	6
Other Tubercular Diseases excluding Tabes Mesenterica	0·38	0·44	0·06	8
Old Age	0·89	1·07	0·18	26
Other Diseases	1·72	1·86	0·14	20
Heart Diseases	1·33	1·39	0·06	8
Erysipelas	0·02	0·06	0·04	6
Gross Losses .....	...	...	0·92	131

Nett gain 2·27 or 324 lives.

The death of a person in a population of 133,583 corresponds to a rate of 0·007 per 1000. Hence the saving or loss of a rate of:—0·007 means the saving or loss of one human life

similarly 0·035 " " " five " lives
 and 0·070 " " " ten " "
 therefore 2·270 " " " 324 " "

BLACKBURN UNION. Poor Law Relief Statistics.

TABLE LXXXVI.

Cost of Out-door relief in Township of Black- burn	Half-year ended Lady Day, 1906.	Half-year ended Mich'lmas, 1906.	Total.
	£ s. d.	£ s. d.	£ s. d.
4338 13 2	4229 15 6	8568 8 8	
	Persons in receipt of relief on July 1, 1906	Persons in receipt of relief on Jan. 1, 1907	
Males	299	336	
Females	765	781	
Children	396	435	
Total	1460	1552	

Statement of the number of Indoor Paupers relieved in the Blackburn Union Workhouse.

	Persons in receipt of relief on July 1, 1906	Persons in receipt of relief on Jan. 1, 1907	Total
Able-bodied	143	243	
Not Able-bodied	286	348	
Insane	96	85	
Children	33	31	
Totals	558	707	
Numbers included in above statement who were inmates of the Workhouse Infirmary	203	219	
Children in Cottage Homes	81	84	
	Half-year ended Lady Day, 1906.	Half-year ended Mich'lmas. 1906.	
Vagrants	11518	9065	20583

I am indebted to Mr. C. E. Bygrave for these figures, which have an indirect bearing upon the health conditions and statistics of the town.

METEOROLOGICAL OBSERVATIONS.

The Meteorological Station is situated on an open site in the Corporation Park.

Daily readings of each instrument are taken at 9 a.m. These instruments are:—

- 1.—Maximum Thermometer (Phillips's).
- 2.—Minimum Thermometer (Rutherford's).
- 3.—Hygrometer.
- 4 and 5.—Black and Bright Bulb Thermometers for Solar Radiation.
- 6.—Spirit Thermometer for Terrestrial Radiation.
- 7 and 8.—1ft. and 4ft. Earth Thermometers.
- 9.—Rain Gauge.
- 10.—Anemometer.
- 11.—Sunshine Recorder.
- 12.—Barometer (Fortin), kept at the Health Office.

A full description of the above instruments appeared in my Annual Report for 1903.

The total rainfall for 1906 was 43.02 inches, compared with 34.98 inches during 1905.

During 1906 rain fell on 243 days, compared with 223 in 1905.

The wettest month of 1906 was October, when there were nearly $6\frac{1}{2}$ inches of rainfall.

The highest reading of the 4ft. Thermometer during 1906 was 56.5 deg F. on each day from September 6th to September 10th.

The monthly average reading of the 4ft. Thermometer, however, during 1906, kept below 56 deg. F.

Also during 1906 there were 87 days without any bright sunshine, compared with 57 days during 1905.

TABLE LXXXVII.—METEOROLOGICAL REPORT FOR THE YEAR 1906.

	Mean Pressure		Mean Relative Humidity.	Mean of Maximum and Minimum Temperature.	Mean Temperature at 9 a.m. Readings	Under-ground Temperature		Mean Black Bulb in Vacuo.	Mean Bright Bulb in Vacuo.	Absolute extremes of Temperature.		Mean depression of minimum on grass the shade.	Total bright sunshine.	Most sunshine in one day.	Direction of the Wind.						Mean daily move.	Total rainfall.				
	Station Level.	Sea Level.				Highest.	Lowest.			Mean daily minimum on the grass.	Mean depression of minimum on grass the shade.				hrs. min.	Am't.	Date	N.	N.E.	E.			S.E.	S.	S.W.	W.	N.W.
January	29'4"4	29'8"49	93'4	39'5	39'3	at 1 ft. deg. 39'4	at 4 ft. deg. 41'9	55'7	46'6	27th deg. 47'5	28th deg. 19'5	20th deg. 31'9	22—15	6—10	22nd	0	1	1	2	6	10	7	4	274'4	5'35	
February	29'3"43	29'7"34	88'4	36'3	34'5	37'3	40'6	78'8	48'8	24th deg. 46'5	24th deg. 24'0	9th deg. 27'7	72—50	7—5	9th	1	2	0	1	4	8	7	5	199'3	3'24	
March	29'6"22	30'0"05	85'8	38'9	38'8	39'2	40'5	83'3	56'5	17th deg. 54'0	17th deg. 23'0	14th deg. 27'2	119—11	8—50	25th	1	9	0	2	2	13	4	4	244'2	3'46	
April	29'7"15	30'0"84	72'5	43'6	44'1	43'0	42'8	95'7	65'5	11th deg. 66'5	11th deg. 28'0	19th deg. 25'9	176—35	11—45	14th	2	5	5	1	3	6	5	3	179'2	2'10	
May	29'4"70	29'8"23	83'3	48'6	48'9	47'5	45'5	94'3	65'6	13th deg. 33'0	1st deg. 37'9	6'1	79—30	8—0	13th	0	4	4	2	1	9	7	4	201'6	4'19	
June	29'7"57	30'1"27	78'5	56'05	53'4	55'8	51'2	110'8	78'9	12th deg. 74'0	1st deg. 43'3	5'2	183—15	13—50	8th	4	4	1	4	7	6	3	6	3	146'6	1'58
July	29'6"78	30'0"06	80'3	57'25	58'4	57'0	54'4	109'2	79'01	26th deg. 43'5	11th deg. 44'9	5'4	191—10	13—10	20th	0	1	1	3	3	4	14	5	144'8	2'73	
August	29'6"05	29'9"33	82'8	59'6	59'5	57'5	55'6	111'2	80'9	31st deg. 45'5	19th deg. 47'7	5'2	161—0	10—55	31st	1	1	2	0	7	7	8	5	152'4	3'97	
September	29'8"91	30'2"64	79'03	55'16	56'5	55'1	55'3	101'2	74'3	2nd deg. 40'5	23rd deg. 39'4	8'6	156—50	11—35	2nd	3	8	1	2	5	2	6	3	120'9	1'14	
October	29'4"42	29'7"94	85'6	49'88	49'8	51'06	52'4	82'4	62'6	10th deg. 29'0	14th deg. 40'2	4'5	58—5	7—15	25th	0	2	4	1	8	6	9	1	194'6	6'46	
November	29'5"10	29'8"75	90'5	43'85	43'8	45'30	48'1	61'2	51'4	24th deg. 30'0	19th deg. 35'5	3'9	26—55	4—0	6th	0	8	0	1	5	10	1	5	193'1	4'27	
December	29'5"61	29'9"44	93'09	35'75	35'9	39'8	44'6	51'1	42'8	2nd deg. 20'0	7th deg. 26'9	4'4	39—0	6—30	9th	1	3	1	0	3	8	10	5	166'3	4'53	

SUMMARY OF THE METEOROLOGICAL
REPORT FOR 1906.

- Mean monthly reading of the Barometer—29·953"
- Highest daily reading of the Barometer—30·715" April 9th
- Lowest daily reading of the Barometer—28·890"
on February 11th
- Highest reading of the Maximum Thermometer—86·5°
September 2nd
- Lowest reading of the Minimum Thermometer—20°
on December 7th
- Total rainfall during the year 43·02"
- Number of days during the year on which rain fell—243
- The greatest number of days on which rain fell in one month—
29 in October
- The highest reading of the 4ft. Thermometer during the
year—56·5° on September 6th, 7th, 8th, 9th, and 10th
- Number of days during the year without any bright sun-
shine—87 days

SUMMARY OF WIND RECORDS

Number of days in the year on which the prevailing wind
was—

N.	N.E.	E.	S.E.	S.	S.W.	W.	N.W.	Calm.
13	48	20	14	51	74	102	43	9

The total number of miles registered during the year
was—67,527

The greatest number of miles registered during one day
was—520 on March 16th

The least number of miles registered during one day
was—15 on November 12th

TABLE LXXXVIII.—TOTAL AMOUNT OF BRIGHT SUNSHINE RECORDED ON EACH DAY DURING 1905.

MONTH.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total for each Month.	
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
January	0 0	0 0	0 5	0 0	0 30	0 0	0 15	0 5	1 50	1 0	1 15	1 10	2 0	3 10	0 0	1 35	0 5	3 45	0 0	0 0	0 0	0 0	0 0	0 0	2 45	0 0	0 0	1 0	0 12	0 20	4 0	25 2	
February	4 5	1 35	3 0	0 0	0 0	0 10	6 0	1 45	0 5	0 0	5 40	1 45	0 0	4 30	0 0	0 45	5 35	1 0	1 20	5 35	3 0	8 5	4 10	0 0	0 40	2 15	0 0	0 30	0 0	0 0	0 0	61 30	
March	3 30	3 50	5 0	0 5	0 0	0 5	0 20	2 30	4 50	4 30	2 30	1 30	3 50	2 50	4 45	4 35	6 30	6 30	9 0	1 40	0 15	8 0	4 20	4 10	0 0	5 50	4 25	1 0	9 10	6 20	6 45	118 35	
April	0 0	7 50	7 40	0 0	2 30	9 40	2 10	9 20	5 0	0 0	0 0	7 0	0 0	0 30	7 30	0 0	0 0	2 15	1 40	5 30	1 10	9 30	7 0	10 35	11 50	0 0	0 30	0 0	1 15	1 20	0 0	111 45	
May	0 10	0 0	10 0	3 0	10 30	11 0	4 0	10 30	12 20	7 30	4 30	8 10	2 15	1 0	2 30	6 20	13 35	11 25	9 0	10 50	5 50	7 5	8 55	2 10	1 0	5 0	0 5	1 0	7 30	10 15	9 10	196 35	
June.....	7 10	0 0	5 50	11 0	8 10	2 10	0 0	9 15	14 0	11 40	11 0	13 50	4 0	11 50	11 5	3 10	0 45	0 15	6 10	0 0	3 15	7 30	5 25	11 20	11 30	8 30	10 40	6 45	1 35	0 20	0 0	198 10	
July.....	1 30	4 20	4 45	13 30	4 30	6 10	12 0	13 20	8 10	5 0	5 40	1 25	5 30	13 0	2 30	8 10	3 0	9 35	11 0	3 0	8 30	0 0	4 0	6 30	5 0	1 15	13 0	10 30	2 0	5 0	8 0	199 50	
August	6 15	8 30	2 30	2 15	1 0	7 0	0 30	8 50	1 30	4 0	6 30	4 15	6 30	8 40	6 0	5 10	6 20	0 20	1 5	4 30	4 15	8 50	3 50	11 40	0 0	2 5	8 15	0 0	2 40	3 0	7 20	143 35	
September	0 0	0 0	0 0	0 10	0 15	0 0	3 10	0 20	1 10	5 0	7 0	4 40	2 30	9 20	3 55	7 20	5 10	0 0	1 30	5 30	6 30	0 50	4 30	4 0	3 40	4 0	0 25	1 30	3 30	4 30	0 0	90 25	
October	1 50	2 10	0 30	1 20	5 0	9 0	0 0	0 0	1 0	0 40	0 15	0 0	2 25	1 0	0 0	9 5	3 10	1 25	7 25	6 15	3 50	6 5	0 15	3 0	3 30	0 30	6 30	0 0	4 30	3 10	1 10	85 0	
November	0 0	1 0	0 20	2 30	0 0	1 30	6 0	5 30	4 30	0 30	0 15	0 20	0 5	1 0	5 30	6 30	1 45	2 40	3 30	0 4	0 10	0 0	1 0	4 5	0 0	0 10	2 10	0 0	5 5	0 0	0 0	56 9	
December	3 20	0 0	0 0	0 0	1 10	3 0	6 0	3 15	4 10	0 10	2 0	0 0	0 0	0 0	3 30	0 0	0 0	0 0	0 15	0 0	0 0	0 0	0 0	1 40	0 0	1 5	3 0	0 0	0 0	3 20	0 0	35 55	

TABLE LXXXIX.—TOTAL AMOUNT OF BRIGHT SUNSHINE RECORDED ON EACH DAY DURING 1906.

MONTH.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Total for each Month.	
	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m	h m
January	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 40	0 0	0 0	3 10	0 45	0 10	0 3	1 20	0 0	3 5	0 0	1 30	6 10	0 0	0 0	1 10	0 0	0 0	0 0	2 45	1 15	0 12	22 15	
February.....	0 10	0 45	5 30	4 10	6 10	0 0	3 10	0 15	7 5	0 0	2 30	5 40	0 0	4 10	3 20	1 0	1 5	4 30	0 0	5 0	6 15	0 45	4 15	0 0	3 45	3 20	0 0	0 0	.....	.....	.....	72 50
March.....	0 0	0 0	7 30	6 20	1 15	0 0	2 0	2 5	1 0	0 0	0 0	7 36	6 5	6 55	0 0	0 0	7 10	7 0	4 45	1 45	6 0	7 0	8 30	2 5	8 50	5 50	2 10	8 0	7 30	0 15	1 35	119 11	
April	0 0	8 10	9 20	9 15	0 45	7 50	7 45	0 15	9 15	10 0	9 45	4 15	5 30	11 45	8 30	5 10	4 30	11 30	7 20	3 10	0 10	7 20	5 0	6 10	7 10	1 0	4 30	4 35	5 30	1 0	.....	176 35
May.....	8 30	0 0	5 15	3 30	2 45	0 10	1 15	0 0	3 30	3 10	0 10	0 30	8 0	2 10	6 50	2 45	0 40	5 20	0 0	0 50	3 15	0 40	0 20	5 15	3 0	0 0	0 10	1 15	1 30	2 15	6 30	79 30	
June.....	2 55	7 15	4 20	12 45	11 50	12 30	2 0	13 50	12 40	3 0	12 10	10 40	0 0	1 40	5 10	3 30	2 0	6 10	10 40	5 40	0 50	0 0	7 40	4 30	0 0	1 0	7 0	2 30	7 0	11 10	.....	183 15
July.....	9 40	0 0	9 25	11 30	7 40	3 50	8 50	8 20	8 30	1 30	12 0	7 50	0 0	7 0	6 10	0 0	2 10	3 10	10 50	13 10	1 0	2 0	0 40	11 30	8 10	12 50	1 10	2 35	5 0	7 30	7 10	191 10	
August	3 50	1 30	9 0	4 20	8 50	9 20	9 0	0 0	5 50	1 0	1 50	0 0	3 30	6 35	6 5	3 15	1 30	1 30	7 0	0 20	0 15	8 40	6 10	5 15	5 50	0 0	8 50	9 50	10 15	10 45	10 55	161 0	
September	11 20	11 35	0 50	8 0	4 20	6 50	0 0	4 30	8 10	10 30	8 0	0 0	0 40	5 0	7 20	3 30	4 30	6 0	2 0	1 0	7 20	1 30	1 10	6 0	5 10	5 0	8 30	6 30	6 0	5 5	.....	156 50
October	1 40	0 20	4 50	0 0	0 30	1 0	0 30	4 35	0 0	1 50	0 0	0 15	6 50	4 10	1 0	0 35	3 0	0 0	1 30	4 55	0 30	2 20	2 50	5 0	7 15	0 0	1 30	0 10	1 15	0 0	0 0	58 5	
November	0 0	0 0	2 15	1 35	1 30	4 0	0 10	0 0	3 0	1 30	0 0	0 40	0 0	0 0	0 15	0 0	0 0	0 0	0 55	2 15	0 0	0 0	3 30	3 25	0 0	0 0	0 0	0 0	0 25	1 30	.....	26 55
December	5 30	0 0	3 30	0 0	1 0	0 35	1 0	0 0	6 30	5 40	0 0	0 0	1 10	0 55	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	5 10	4 5	3 30	0 0	0 25	0 0	0 0	39 0	

MEAT INSPECTION AND FARM INSPECTION.

Full details respecting the Inspection of Meat and Dairy Cattle will be found in the Report of the Veterinary Inspector, which follows my covering remarks.

The total number of carcasses destroyed shows a decrease of 10 carcasses when compared with the number destroyed during 1905.

The following are the figures of condemned carcasses for the last five years:—

Year	1902	1903	1904	1905	1906
Carcasses of—					
Beef	228 ...	219 ...	215 ...	198 ...	166
Mutton	72 ...	70 ...	64 ...	66 ...	91
Veal	164 ...	85 ...	106 ...	90 ...	87
Pork	6 ...	16 ...	34 ...	24 ...	22
		and 1 goat			and 2 goats
Total	470	391	419	378	368

There was a diminution in the carcasses of beef condemned and an increase in the carcasses of mutton condemned during 1906, as compared with 1905.

There has been an increase in the number of animals slaughtered at the Public Abattoir, and in the number of carcasses and amount of meat brought to the Abattoir during 1906 as compared with 1905.

The inspection of meat at the Public Abattoir has again been carried out with the greatest care, and diseases of organs or

any part of the carcass have been recorded accurately in the registers prepared specially and kept for that purpose.

A copy of a page from one of the registers, showing the different headings, appeared in my Annual Report for 1904.

The tuberculous carcasses which have been examined have been classified into cows, heifers, bulls, bullocks, calves, and pigs.

A total number of 10,597 of these six groups of animals were slaughtered during 1906, of which 510 were tuberculous, or a percentage of 4.8.

Similar percentages for the years 1902, 1903, 1904, and 1905 were respectively 6.0, 5.19, 6.07, and 5.83.

Tuberculosis was not present in any sheep out of a total number slaughtered of 37,569.

Of the above 510 tuberculous carcasses, 97, or 19.0 per cent., were rejected.

The percentage of tuberculous carcasses rejected during 1904 and 1905 were 22.1 and 19.4 respectively.

Of the above 510 tuberculous carcasses examined, 376 were cows, or 73.7 per cent., compared with 73.8 per cent. during 1905.

Of the above 376 tuberculous cows examined, 71, or 18.8 per cent., were rejected, compared with 21 per cent. in 1905.

It is interesting to note that 492 out of the 510 tuberculous animals had Tuberculosis of the Lungs. The serous membranes of the thoracic cavity were the next most commonly affected parts.

Then, in order, the following parts were affected:—Liver, abdominal serous membranes, kidneys, spleen, intestines, stomach, heart, uterus, and bones.

A similar order prevailed in 1904 and 1905.

The table showing the tuberculous udders at the Abattoir is again very instructive. All these were examined microscopically at the Fever Hospital Laboratory. The 31 tuberculous udders occurred in 2,210 cows, or 1.4 per cent.

The percentages of tuberculous udders for the years 1902, 1903, 1904, and 1905 were 1.5, 1.9, 2.0, and 1.7 respectively.

Eighteen of these 31 cows with tuberculous udders were giving milk until the day of slaughter, and milk from six of the corresponding farms was being sold in Blackburn.

Regarding the extent of the tuberculous process in these 31 cows, 14 exhibited the disease in a generalised form, and were rejected.

Six of these 31 cows with tuberculous udders came from farms within the Borough.

As I have stated previously, closure of all the private slaughter-houses in the Borough, so that all slaughtering could be carried out at the Public Abattoir, would ensure the process being carried out under satisfactory conditions, and also a more complete inspection of carcasses.

During the year I visited and examined in detail the sanitary conditions of the 16 private slaughter-houses in the Borough. Plans were also prepared to scale for each one. Particulars were obtained as to position, connection with dwellings, whether people

sleep on the premises or not, area of the yard space, and the distance of each private slaughter-house from the Public Abattoir.

Particulars were also obtained respecting name of occupier, name of owner, floor-space and cubic space of the slaughter-house, condition of the walls, floors, roofs, doors, ventilation, lighting, drainage, and water supply.

I also obtained details as to the size, lighting, and ventilation of the various lairs.

It is possible to separate these 16 private slaughter-houses into two groups :—

- I. Those which may be considered to be satisfactory at present.
- II. Those which require alterations or which cannot be altered satisfactorily.

There appear to be six in Group I. and the remainder in Group II.

Since this Report was made one from Group II. has been closed.

There are now, therefore, 15 private slaughter-houses in the Borough.

The following notice was issued to butchers, meat salesmen, and others during the year :—

COUNTY BOROUGH OF BLACKBURN.

TO BUTCHERS, MEAT SALESMEN, AND OTHERS.

NOTICE IS HEREBY GIVEN of the following Bye-law,

which in future will be strictly enforced :—

“CARRYING CARCASSES UNCOVERED.”

“That if any person shall convey or carry, or cause
“to be conveyed or carried, in any manner in or through
“any street, the carcase or any part of the car-
“case of any slaughtered animal, without a clean
“and sufficient cloth covering over the same, every
“person so offending, shall, for any such offence, for-
“feit and pay the fine or sum of two shillings and sixpence ;
“and for a second offence alleged and proved as such, and
“not committed on the same day as such first offence, shall
“forfeit and pay the fine or sum of five shillings ; and for
“every offence being subsequent to a second offence, and
“alleged and proved as such, and not committed on the
“same day as any prior offence, shall forfeit and pay the
“fine or sum of ten shillings.”

By order,

LEWIS BEARD,

Town Clerk.

Town Hall, Blackburn,

7th December, 1906.

On December 29th, 1906, an offender was fined 2s. 6d. and costs for a breach of this bye-law.

The inspection of dairy cows at the 100 farms within the Borough has again been carried out with skill and care by Mr. Stirling, the Veterinary Inspector.

There has been a great diminution during 1906 in the amount of tuberculosis amongst pigs slaughtered at the Abattoir. Twenty-nine out of 2,705 pigs slaughtered were found to be tuberculous, compared with 71 tuberculous pigs out of 3,513 pigs slaughtered during 1905.

Visits paid to farms from which tuberculous pigs had been sent did not result in the discovery of any cows with tuberculous udders.

Attention was called upon several occasions during the year to the differences between farms within and farms outside the Borough. It is probable that there are three or four times the number of farms outside as there are within the Borough from which milk is sent into Blackburn. It is also probable that the sanitary conditions of the cowsheds, and the systematic examination of the udders of dairy cows, is superior within the Borough to those in the surrounding districts.

A greater uniformity in these respects is highly desirable, and if all Local Authorities made and enforced suitable Bye-laws such uniformity would be attained.

In addition to the samples of milk taken under the Food and Drugs Act, 31 samples were taken during 1906 for bacteriological examination for tubercle bacilli from farmers residing outside the Borough. None of these were found to cause tuberculosis.

I have frequently drawn attention to the association between an infected or contaminated milk and illness amongst infants, especially of a gastro-intestinal type, *e.g.* Infantile Diarrhœa. The opportunities for the contamination of milk sold in open vessels increase at each stage of its journey from the cow to the infant. In the cowshed, contamination may arise from soiled udders, dirty hands of the milker, and improperly cleansed milk-pails. The mixing vessels, the hands again, the milk cart, the milk shop, the open counter vessels, the milk cans, the dippers, the hands again, the dust of the street, and the dust of the home complete the mixture which is now frequently given to the infant in a dirty feeding-bottle.

In any case bacteria get into the milk whenever it is exposed to the atmosphere, but in the above stages the numbers of the bacteria found in milk are increased exceedingly. The number of bacteria derived from the teat, udder, and body of the cow can be reduced greatly by the simple process of keeping the cow cleaner. There is no reason why cows should not be groomed thoroughly. If this were done there would be much less material to fall into the milk pail. Another simple expedient, which could always be carried out, would be a thorough cleansing of the milkers' hands before the operation of milking, and attention should be paid to the cleanliness of the milkers' clothing. As the head of the milker often touches the flanks of the cow during milking, a clean cap worn by the milker would also tend to diminish the number of germs in milk. Of course, cleanliness of the cowshed is absolutely necessary. As more dust, etc., can gain access to the milk the greater the surface of milk exposed to the air, it would be an excellent plan to use milk pails with a smaller opening, or the milk pail should be covered with a piece of clean muslin through which the milk would pass. Cooling of the milk as soon as possible after milking will also prevent the bacteria from multiplying.

The above are precautions so simple that they can be carried out quite easily by every farmer, and would prove an exceedingly important step in producing a cleaner milk supply. There is no doubt that milk which is clean and cooled properly to begin with will keep sweet longer than dirty milk. The importance of this in hot weather is obvious.

As may be inferred from my previous remarks, there are other people beyond the farmer who have a duty towards the public in ensuring a cleaner milk supply. In this respect the practice of uncovering the milk-cans in the cart in the street and dipping in so frequently, adds its share to contamination of the milk. The system of drawing the milk through a tap certainly lessens contamination in that manner.

Again, when milk is sold from small shops, it should always be covered up. Contamination must occur to a considerable extent when milk is kept uncovered in a shop from which are also retailed potatoes, pickles, etc

The point which I wish to emphasise is that greater cleanliness of milk at its source and during its distribution could be observed without extra cost, and with much greater safety to the public.

VETERINARY INSPECTOR'S REPORT ON
MEAT INSPECTION AND INSPECTION OF DAIRY
CATTLE. ETC.

Public Health Office,
Blackburn,

January 25th, 1907.

To the Medical Officer of Health.

Sir,

I have pleasure in submitting to you my Report for the year 1906.

During that period 1,152 diseased carcasses were examined at the Public Abattoir and private slaughter-houses in the Borough, 351 of them being rejected and destroyed as unfit for human food. Seventeen immature carcasses of veal were also destroyed, making the total number of carcasses destroyed 368. Compared with last year this return shows a decrease of three diseased carcasses, and seven immature carcasses destroyed.

During the year 3,870lbs. of unsound meat, 324 rabbits, 22 head of poultry, and a large quantity of fish were also destroyed. The total weight of the rejected carcasses, organs, meat, etc. (excluding fish) destroyed during the year was 58 tons 13cwts.

During 1906 one private slaughter-house has been abolished, reducing the number of private slaughter-houses in the Borough where animals are slaughtered for sale as human food to 15. There is also a private slaughter-house at the Blackburn Union Workhouse, where animals are slaughtered and dressed as human food, but not for sale. They are used as food for the inmates at that Institution. The following tables refer to the number of animals slaughtered at the Abattoir, the amount of dead meat brought to the Abattoir, the number of tuberculous carcasses and udders examined, the number of carcasses destroyed, and numerous other particulars relating to the inspection of meat and dairy cattle.

TABLE XC.
NUMBER OF ANIMALS SLAUGHTERED AT THE
PUBLIC ABATTOIR

1906.	Beasts.	Sheep.	Goats	Calves.	Pigs.
January	539	3180	2	138	335
February	466	2513	...	151	218
March	423	2372	...	214	235
April	419	1338	...	350	180
May	518	2831	2	169	155
June	326	3794	...	86	90
July	307	3915	...	136	147
August	444	4604	...	214	130
September	430	3680	...	195	146
October	638	3882	1	252	193
November	652	3196	1	161	271
December.....	520	2264	2	144	605
Totals.....	5682	37569	8	2210	2705

Compared with last year this table shows an increase of 218 Beasts, 6853 Sheep and 477 calves ; also a decrease of 808 Pigs and 1 Goat.

TABLE XCI.
NUMBER OF CARCASSES AND AMOUNT OF MEAT
BROUGHT TO THE ABATTOIR.

1906.	CARCASSES.		BEEF.			PORK.
	Beef.	Mutton.	Hind Quarters.	Buttocks	Clods	Boxes.
January	155½	...	73	2	12	8
February ...	98	...	49	...	...	8
March	128½	444	56	...	1	3
April	126	1152	62	...	12	...
May	140	1104	52	...	4	...
June	98½	52	69	...	...	...
July	111½	...	56	...	2	...
August ...	100½	...	118	...	5	...
September	152	..	69	...	...	...
October ...	130½	20	46	...	3	...
November	38½	...	51	3	...	...
December...	111½	40	91	3	...	...
Totals	1391	2812	792	8	39	19

Compared with last year this table shows an increase of 10 Carcasses of Beef and 258 Hind Quarters of Beef ; also a decrease of 1885 Carcasses of Mutton, 23 Clods of Beef, 12 Buttocks of Beef and 24 Boxes of Pork.

TABLE XCII.—TUBERCULOUS CARCASSES EXAMINED AND REJECTED.

1906.	Cows.		Heifers.		Bulls.		Bullocks.		Calves.		Sheep.		Pigs.		Totals.	
	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected	Exam'd	Rejected
January.....	34	8	1	...	4	...	2	...	...	...	...	...	6	...	47	8
February.....	42	8	1	...	3	...	...	...	...	...	...	...	2	1	48	9
March.....	24	4	...	...	2	1	2	...	...	...	...	...	...	...	28	5
April.....	24	2	2	1	3	...	1	...	1	1	...	...	1	...	32	4
May.....	37	6	3	1	1	...	...	...	...	...	...	...	3	2	44	9
June.....	23	10	1	...	5	1	2	...	...	...	...	...	...	...	31	11
July.....	24	4	1	1	3	...	1	...	1	1	...	...	3	3	33	9
August.....	28	4	5	1	2	...	2	...	...	...	...	...	10	2	47	7
Sept.....	38	7	5	1	2	...	1	...	...	...	...	...	...	...	46	8
October.....	28	5	1	1	2	..	2	1	1	1	...	...	...	...	48	7
Nov.....	43	5	17	3	3	...	2	...	2	2	...	...	3	1	70	11
Dec.....	31	8	2	1	...	...	2	...	...	...	...	...	1	...	36	9
Totals... ..	376	71	53	10	30	2	17	1	5	4	...	...	29	9	510	97

TABLE XCIII.—Tuberculous Cows exhibiting Tuberculous Disease in the Mammary Glands

1906	No. of Cow	Age.	Where From.	Extent of the Tuberculous Process.		Was she giving milk on the day of slaughter.	Was Milk from the farm sold in Blackburn.	Result of examination of the Carcase.
				Generalized	Localized			
				Udder.				
Jan.	20	aged	Bacup	Yes	No	Left anterior and posterior quarters	No	rejected
Feb.	4	aged	Salford Mart.....	No	Yes	Right posterior quarter	No	passed
"	17	aged	*Guide	Yes	No	Right anterior and posterior quarters.....	Yes	rejected
Mar.	20	aged	*Union Workhouse	No	Yes	Right posterior quarter	No	passed
"	20	aged	Langho.....	Yes	No	Every quarter	No	rejected
"	21	aged	Edinburgh.....	No	Yes	Left posterior quarter	No	passed
"	26	aged	Edinburgh	No	Yes	Left posterior quarter.....	Yes	passed
"	26	aged	Edinburgh	No	Yes	Left posterior quarter.....	No	rejected
April	20	2½ yrs	Balderstone	Yes	No	Left anterior and posterior quarters.....	No	passed
May	31	aged	Annan	No	Yes	Right anterior and posterior quarters.....	No	passed
July	19	aged	*Stakes Hall	No	Yes	Right anterior and posterior quarters.....	Yes	passed
Aug.	17	aged	Bacup	Yes	No	Right anterior and posterior quarters.....	Yes	rejected
"	17	aged	Livesey	Yes	No	Right anterior and posterior quarters.....	No	rejected
"	28	aged	Mellor	No	Yes	Left posterior quarter.....	Yes	passed
Sept.	5	aged	Preston Mart	No	Yes	Right posterior quarter	No	passed
"	5	aged	Clitheroe	Yes	No	Every quarter.....	No	rejected
"	5	aged	Salford Mart	No	Yes	Right posterior quarter	Yes	passed
"	16	aged	Salford Mart.....	No	Yes	Every quarter	No	passed
"	17	aged	Salford Mart.....	No	Yes	Every quarter	No	rejected
Oct.	1	aged	Tockholes	Yes	No	Every quarter	Yes	rejected
"	24	aged	*Guide	Yes	No	Every quarter	Yes	rejected
"	31	aged	Clitheroe	No	Yes	Left posterior quarter.....	No	passed
Nov.	3	aged	Oswaldtwistle	Yes	No	Both posterior quarters	No	rejected
"	14	aged	Clitheroe	Yes	No	Every quarter	Yes	passed
"	16	aged	*Guide	No	Yes	Left posterior quarter	Yes	passed
"	21	aged	Langho.....	No	Yes	Right anterior quarter	Yes	passed
"	22	aged	Salford Mart	No	Yes	Both posterior quarters	Yes	passed
"	22	aged	Brindle	No	Yes	Right anterior quarter	Yes	passed
Dec.	5	aged	Salford Mart	Yes	No	Right posterior quarter	No	rejected
"	6	3 yrs	*Salford Mart	No	Yes	Left posterior quarter	No	passed
"	7	3 yrs	*Stakes Hall	No	Yes	Right posterior quarter	Yes	passed
"	7	3 yrs	Clitheroe	Yes	No	Left posterior quarter	Yes	rejected
"	12	3 yrs	Preston Mart	Yes	No	Left posterior quarter.....	No	rejected
"	27	3 yrs	Liverpool	No	Yes	Left anterior quarter.....	No	passed

TABLE XCIV.—TUBERCULOSIS IN THE ANIMALS SLAUGHTERED DURING THE TWELVE MONTHS ENDING 31st DECEMBER, 1906.

Kind of Animal.	Number Slaughtered.	Of which were Tuberculous	EXTENT OF THE TUBERCULOUS PROCESS												
			THORAX.			ABDOMEN.							Bones	Udders	
			Lungs	Heart and Pericardium	Serous Membranes	Livers	Stomachs	Spleens	Kidneys	Intestines	Uteri	Serous Membranes			
Cows	2210	376	371	26	268	141	27	35	63	28	19	122	7	...	31
Heifers	701	53	51	3	43	16	4	4	5	6	1	19	1	...	...
Bulls	1008	30	28	...	24	7	2	2	2	2	...	10	...	...	...
Bullocks	1763	17	15	..	11	3	...	...	2	1	...	1	1	...	...
Calves	2210	5	4	...	3	3	...	1	1	...	...	1	...	...	...
Sheep	37569	...	...	...	..	...	...	...	..	...	...	...	...	...	...
Pigs	2705	29	23	..	4	23	1	11	...	...	..	2	1	...	...
Totals	48166	510	492	29	353	193	34	53	73	37	20	155	10	...	31

TABLE XCV.

DISEASED CARCASSES EXAMINED, REJECTED, AND DESTROYED FOR DISEASES, etc. OTHER THAN TUBERCULOSIS.

CARCASSES.

BEEF.	MUTTON.	GOATS.	VEAL.	PORK.
1 Anthrax	2 Anthrax	1 Emaciation	13 Arthritis	1 Anthrax
2 Anasarca	12 Anasarca	1 Suffocation	1 Abnormal colour of muscles, &c.	2 Anasarca
1 Anæmia	17 Congested, ill bled		1 Anasarca	1 Acute Nephritis
1 Arthritis	1 Congestion of Lungs		11 Congested, ill bled	1 Extensively bruised
1 Conditions incidental to difficult parturition	1 Cirrhosis of Liver		8 Emaciation	1 Gastritis and Hepatitis
1 Congested, ill bled	12 Emaciation		1 Gangrene of lungs	1 Pneumonia
3 Fractured Bones, &c.	1 Enteritis		2 Icterus	1 Peritonitis
2 Extensively Bruised	1 Parturition, &c.		3 Enteritis	1 Septic Peritonitis
1 Enteritis	1 Nephritis		2 Nephritis	1 Unmarketable
2 Gastritis, &c.	5 Parasitic disease of lungs and liver		2 Suffocation	3 Septicæmia
1 Hepatitis	2 Pneumonia		1 Putrid	
1 Hepatitis & Metritis	3 Putrid		1 Pleurisy	
4 Peritonitis	2 Peritonitis		3 Pneumonia	
4 Parturient Apoplexy	1 Parasitic disease of intestines		7 Pyæmia	
7 Pneumonia	1 Pyæmia		3 Septicæmia	
1 Putrid	1 Septic Mammitis		2 White Scour	
1 Pyæmia	3 Suffocation		5 Unmarketable	
14 Rheumat	2 Septicæmia		17 Immature	
11 Septicæmia	1 Traumatic pneumonia			
2 Rheumatic Arthritis	3 Tympanitis, &c			
4 Septic Pneumonia	17 Unmarketable			
Septic Metritis	1 Lipomatous tumours of liver			
1 Septic Mammitis	1 Lymphomatous tumours			
7 Stomach Stagers				
3 Symptomatic Anthrax				
4 Unmarketable, &c.				
Totals 82	91	2	83	13

Total Number of Carcasses Destroyed.

Kind of Carcase—1906.

Beef.....	166—including	84 tuberculous,	1 anthrax	
		and 3 symptomatic anthrax.		
Mutton.....	91—including	2 anthrax.		
Goat.....	2.			
Veal.....	87—including	4 tuberculous and 17 immature.		
Pork.....	22—including	9 tuberculous and 1 anthrax.		
Total.....368 carcasses.				

DISEASED ORGANS, &c. REJECTED & DESTROYED.

1906	Heads.	Sets of Lungs.	Hearts.	Diaphragms.	Livers.	Stomachs	Spleens.	Kidneys.	Udders
For Tuberculosis.	2	395	3	22	113	1	9	35	31
For diseases other than Tuberculosis.	2	104	34	12	412	43	13	180	51
Totals...	4	499	37	34	525	44	22	215	82

DISEASED TISSUES, ETC., FORWARDED TO THE FEVER HOSPITAL LABORATORY FOR EXAMINATION.

	Positive	Negative	Total
Suprarenal capsule for tubercle bacilli ..	0	1	1
Sections of cows' udders for tubercle bacilli	27	5	32
Sections of lungs, livers, spleens, kidneys, muscles, &c.; also blood for anthrax bacilli	7	0	7
Totals.....	34	6	40

DISEASED ORGANS, ETC., FORWARDED TO THE PUBLIC HEALTH LABORATORY, MANCHESTER, FOR EXAMINATION.

	Result of Examination.
The mammary glands of a cow ...	Chronic Mastitis
The lungs, liver, pancreas, etc., of a young bull	Melanosis
Several enlarged lymphatic glands from a ewe.....	Lymphomatous tumours

DISEASED, BRUISED, PUTRID, AND UNMARKETABLE MEAT
REJECTED AND DESTROYED APART FROM WHOLE CARCASSES.

1906.	Beef, Mutton, Pork and Veal.					lbs.
January	355
February	40
March	52
April	396
May	290
June	416
July	358
August	488
September	457
October	557
November	223
December	238
						3,870
	Total ...	...	...	...	...

FISH, RABBITS, GAME, AND POULTRY, EXAMINED, REJECTED,
AND DESTROYED.

1906	Fish					Rabbits	Poultry.
	Boxes.	Barrels	Bags	Kits	Lbs		
Totals	280	4 $\frac{1}{2}$	17 $\frac{3}{4}$	3 $\frac{1}{2}$	225	324	22 head.

Also 22 quarts of Shrimps.

NUMBER OF ANIMALS INSPECTED IN PRIVATE
SLAUGHTER-HOUSES.

Beasts.	Sheep.	Calves.	Pigs.
2008	7378	368	17

WEIGHT OF REJECTED CARCASSES, ORGANS, MEAT, &c.,
FORWARDED FOR DESTRUCTION DURING THE YEAR
FROM THE ABATTOIR TO AUDLEY DESTRUCTOR.

1906.	Tons.	Cwts.	Qrs.
January	5 ...	15 ...	2
February	5 ...	6 ...	0
March	... 3 ...	... 7 ...	2
April	... 4 ...	... 0 ...	3
May	... 4 ...	... 12 ...	0
June	... 4 ...	... 15 ...	1
July	... 4 ...	... 2 ...	3
August	... 4 ...	... 7 ...	2
September	... 4 ...	... 12 ...	2
October	... 4 ...	... 6 ...	2
November	... 6 ...	... 14 ...	1
December	... 6 ...	... 12 ...	2
Totals	... 58	... 13	0

The above figures do not include the weight of Fish destroyed.

NUMBER OF VISITS.

To Butcher's Shops, etc.	1,841
To Private Slaughter-houses ..	1,926
To the Meat Market.....	485
To the Fish Market	617
To the Public Abattoir	710
To the Railway Station.....	330
Total....	5,909 visits

MAGISTERIAL PROCEEDINGS IN CONNECTION
WITH THE SEIZURE OF UNSOUND MEAT.

On June 23rd I seized 30 pieces of putrid meat exposed for sale on a butcher's stall in the Market Place. On June 29th the owner of the putrid meat was brought before the magistrates and fined £3 and costs for exposing for sale as human food 27 pieces of unsound meat.

On June 27th Inspector Almond seized 5¼lbs. of putrid tongues exposed for sale in a shop in Harwood Street. On July 5th the owners of the tongues were fined 10s. and costs for exposing the same for sale as human food.

On June 26th I seized 42lbs. of putrid meat which I found deposited in a room above a butcher's shop in Whalley Range. The meat was brought before a justice, who ordered it to be destroyed.

No further proceedings were taken in this case.

MAGISTERIAL PROCEEDINGS BY THE BOROUGH
POLICE.

On December 29th a butcher was fined 2s. 6d. and costs for conveying without cover the carcasses of two sheep in Harrison Street.

CASES OF ANTHRAX INSPECTED AT THE
ABATTOIR, ETC.

Five cases of Anthrax were dealt with during the year, viz. :

- 1.—March 8th. A sheep, from Glasgow, found dead in a railway waggon.

- 2.—August 18th. A pig found dead in the Abattoir.
- 3.—November 27th. A sheep found dead in a field in Blackburn.
- 4.—December 25th. A bullock from Castle Douglas which died in a pen on the railway siding.
- 5.—December 31st. A sheep brought dead from Clayton-le-Moors.

The following table shows the cases of Anthrax discovered and reported in Blackburn during the years:—

	1899	1900	1901	1902	1903	1904	1905	1906
Blackburn cases	0	1	1	1	5	1	1	2
Outside cases ... (introduced)	2	4	4	3	3	8	4	3
Totals	2	5	5	4	8	9	5	5

FARM AND DAIRY CATTLE INSPECTION.

During the year 125 farms were visited, 224 cowsheds inspected, and the udders of 2,445 dairy cows examined.

I certified that five of the cows examined were affected with tuberculosis of their mammary glands, and the sale of their milk was immediately prohibited by you.

Ten cows were suffering from mammitis and other abnormal conditions of their udders. The milk from these cows was not sold for human food.

I found twelve cows showing clinical symptoms of tuberculosis, and requested their removal from the cowsheds, and advised immediate slaughter, which was carried out.

Four cows suspected of tuberculosis were tested with tuberculin, and gave typical reactions. They were afterwards withdrawn from the herds and slaughtered.

Of the 376 tuberculous cows slaughtered at the Abattoir, 38 only were from cowsheds in the Borough; the others were brought from Edinburgh, Annan, Salford, Preston, and Blackburn markets; also from farms in the surrounding districts.

I may here mention that at the Union Workhouse cowsheds the cows are in excellent condition, being groomed and cleaned twice a day.

As far as I am aware this is the only cowshed in the Borough where the cleanliness of the cows is so well attended to, and I feel confident that the extra labour in grooming, etc., will be repaid by a healthier condition of the animals and a milk supply less contaminated by dirt.

TUBERCULOUS UDDERS.

Your letter of May 16th to farmers in Blackburn, pointing out their duty to notify to you every case or suspected case of tuberculosis of the udder in their dairy cows has been complied with in one instance only.

Of the seven cases of tuberculosis of the udder discovered in dairy cows from Blackburn cowsheds, one was notified promptly as suspected, three were found at the Abattoir after slaughter, and three were detected at farms during visits of inspection.

If every one of these cases had been notified to you by the owners, as required by the Blackburn Corporation Act of 1901, the sale of their milk as human food could have been prevented much earlier.

On October 24th a cow was brought to the Abattoir from a farm in the Borough and slaughtered. On examination it was found that she had suffered from generalised tuberculosis, her udder was extremely enlarged, indurated and tuberculous in every quarter.

The owner of this cow admitted that he had known that her udder was diseased for some months.

As the case had not been notified to you the farmer was summoned to appear before the magistrates on November 8th, and fined 40s. and costs "for not reporting to the Medical Officer of Health that he had in his possession a cow suffering from tuberculosis of the udder."

CONTAMINATION OF MILK BY ORGANIC MATTER AND MICRO-ORGANISMS.

The ways in which milk may become contaminated are innumerable, and it has long been known to medical men that milk often proves to be the vehicle of infection by which various infectious diseases are spread among human beings.

Some diseases, such as tuberculosis, actinomycosis, anthrax, etc., may be communicable to man by milk from diseased cows. Milk from healthy cows may become infected in various ways by the contagia of diphtheria, scarlet and typhoid fevers, etc.

With regard to tuberculous milk, it is in the majority of cases charged with tubercle bacilli before leaving the cow's udder.

Milk contaminated by organic matter, micro-organisms and their products is quite unfit for food, and probably is a fertile cause of infantile diarrhoea. When it is taken into consideration that during the winter months dairy cows are kept almost entirely indoors, and forced to live, partake of their food and water, micturate, defæcate, sleep and be milked in the same stall, one can scarcely expect that the atmosphere of cowsheds will be free from organic impurities, and if the building is dirty and badly ventilated, the air of the cowshed will be rendered extremely foul and contaminated.

Organic impurities, in a fine state of division, are always present in the air of occupied cowsheds. They exist in the

form of micro-organisms and other larger particles, such as vegetable fibres derived from the provender, litter and fæces; epidermal scales, hairs, fungi, moulds, yeasts, dust, etc. The air is also vitiated by organic vapours from the lungs and skins of the cattle and gases from decomposition of discharges from their bowels and kidneys, etc. Putrefactive organisms always exist in the air of cowsheds, and pathogenic organisms and spores are frequently present. Provided a cow's udder is normal, the milk contained therein should be sterile, but the moment it is drawn from the cow it is contaminated by innumerable bacteria of various kinds, dust, hairs, etc., which are floating in the air of the shed. The greater portion of the larger particles of dirt are removed by passing the milk through a fine sieve, but the micro-organisms are not removed by this process. It is, therefore, impossible under ordinary conditions to obtain milk free from bacteria, although their numbers can be greatly reduced by thorough cleanliness and good sanitary arrangements. The different kinds of micro-organisms are too numerous to mention, but I may here say that certain organisms belonging to the class known as lactic bacteria are the cause of many of the changes which take place in milk, especially during warm weather. They are plentiful in the air of cowsheds and on cows' udders, etc., and thus obtain easy access to milk. They attack the milk sugar which is present in milk in a state of solution and decompose it, forming lactic acid and causing what is commonly known as "souring." The numerous fermentative changes which occur in milk are all due to bacteria. Some bacteria are colour-producing, causing the milk to appear red, blue, etc. These bacteria multiply very rapidly in milk at temperatures above 60° F.

In order to retard bacterial growth, milk should be cooled immediately after it is drawn from the cow, and then kept at a temperature not exceeding 50° F.

The influence of temperature on the rate of increase of bacteria in milk is shown by the following table by Cnopf:—

INCREASE IN NUMBER OF BACTERIA (CNOPF).

In one hour at 93°F...	7½ fold	At 54.5°F	None
In two hours ,, ...	23 ,,	,, ,,	4 fold
In three ,, ,, ...	64 ,,	,, ,,	6 ,,
In four ,, ,, ...	215 ,,	,, ,,	8 ,,
In five ,, ,, ...	1830 ,,	,, ,,	26 ,,
In six ,, ,, ...	3800 ,,	,, ,,	426 ,,

With regard to pathogenic organisms, I will only mention that of tuberculosis. Tubercle bacilli are found in milk when a cow's udder is tuberculous. Although a high percentage of cows are tuberculous, about three per cent. only are affected in the udder. The danger of infection by the ingestion of milk from a tuberculous udder is in some instances slightly reduced by the fact that nearly all milk sold is mixed milk; for example, assume that a dairy cow is affected with udder tuberculosis, and her condition remains undiscovered by the dairyman and inspector, and that her milk is sold mixed with the milk of, say, 20 healthy cows; thus the resulting dilution diminishes, although it by no means removes, the risk of infection. There is no doubt that diluted tuberculous milk is dangerous, and by dilution it is supplied to and partaken of by a greater number of human beings. Tubercle bacilli in samples of mixed tuberculous milk will vary in numbers, according to the number of diseased cows contributing to each sample, the extent of the tuberculous process in the diseased cows' udders, and the extent of dilution by healthy cows' milk. Every cow suffering from udder tuberculosis should be slaughtered immediately, but, unfortunately, this can only be advised and not enforced. In some cases when a tuberculous cow has been discovered and the sale of her milk prohibited here, she has been sold and removed to another district, where it is quite possible that her milk may again have been sold and used as human food. In endeavouring to obtain a milk supply more pure and free from diseased germs, it is necessary to strictly enforce the Regulations prescribed for the lighting, ventilation, air space, cleaning, drainage, and water

supply of cowsheds and dairies. It is illegal to keep swine in cowsheds, and it would have been desirable if that provision had been extended to include poultry and young calves. On visiting cowsheds I often find young calves suffering from specific forms of diarrhœa. No diseased animals should be permitted to remain in cowsheds, and it would be advisable if power could be obtained to order the removal and isolation of cows suffering from abortion, diarrhœa, metritis, retention of the placenta, septicæmia, pneumonia, suppurative mammitis, ringworm, etc., until such time as the inspector certified them as fit to return. All tuberculous cows should be slaughtered, and bovine tuberculosis should be included in diseases dealt with under the **Diseases of Animals Acts**. Tuberculosis is by far the most common disease met with in dairy cattle, and its eradication from herds is a most difficult problem. A great number of tuberculous cows show no symptoms of the disease, and in such cases tuberculin is the only agent by which a correct diagnosis can be arrived at. It is unfortunate that the majority of cowkeepers seem prejudiced against tuberculin, which has been proved to be reliable as a test for suspected tuberculosis in cattle.

Prohibiting the use in cowsheds of dusty materials, such as shoddy, musty, old and mow burnt hay, etc., as bedding for cows would go a long way in securing a cleaner milk supply.

I would here suggest to you that a circular leaflet, dealing with the principal causes of contamination in milk, be prepared and distributed among cowkeepers and dairymen in Blackburn, and also that a notice be posted in every cowshed in the Borough reminding cowkeepers of their duty, to report in writing to you, all cases of udder tuberculosis in their dairy cattle.

EXAMINATION OF MILK.

During the year 5 samples of unmixed milk and 33 samples of mixed milk were collected and forwarded to Professor Delepine for bacteriological examination. The following tables shew the results obtained.

TABLE XCVI.

UNMIXED SAMPLES OF MILK OBTAINED FROM SUSPECTED COWS
AT FARMS IN THE BOROUGH.

Number of Sample.	Date of Collection.	No of Can.	Evidence of disease in Cow's Udder.	Result of Bacteriological examination:
1	April 6th 1906	B 36	Right posterior quarter indurated.	Found <i>not to cause</i> tuberculosis.
2	do.	B 37	do. do.	do.
3	do.	B 38	Left posterior quarter indurated.	do.
4	do.	B 39	Udder swollen but not indurated.	do.
5	Dec. 4th 1906	B 38	Right posterior quarter indurated.	do.

TABLE XCVII.

SAMPLES OF MIXED MILK EXAMINED FOR TUBERCLE BACILLI.

The following samples of mixed milk, with the exception of Nos. 1 and 4 were collected in Blackburn, from farmers residing outside the Borough, for bacteriological examination.

Number of Sample.	Date of Collection 1906.	Number of Can.	Number of Cows.	Result of Examination.
1	March 26th	B 36	23	Negative. Tested by inoculation and found
2	„ 28th	B 38		<i>not to cause tuberculosis</i>
3	„ „	B 40		„ „
4	Oct. 17th	B 40	23	„ „
5	„ 18th	B 39	35	„ „
6	„ „	B 37	46	„ „
7	„ „	B 36	20	„ „
8	„ „	B 38	40	„ „
9	„ 30th	B 40	26	„ „
10	„ „	B 37	37	„ „
11	„ „	B 36	90	„ „
12	„ „	B 39	15	„ „
13	„ „	34	12	„ „
14	„ „	38	20	„ „

TABLE XCVII. (continued.)

Number of Sample.	Date of Collection 1906.	Number of Can.	Number of Cows.	Result of Examination.
15	Nov. 6th	B 37	49	Negative. Tested by inoculation and found <i>not to cause</i> tuberculosis
16	" "	B 36	40	" "
17	" "	B 39	26	" "
18	" "	B 40	44	" "
19	" 7th	3	26	" "
20	" "	12	24	" "
21	" "	43	15	" "
22	" "	9	16	" "
23	" "	6	26	" "
24	" "	32	31	" "
25	" 13th	B 36	13	Both animals died too soon after inoculation for a definite diagnosis as to the presence or absence of tuberculosis to be made
26	" "	B 37	27	Negative. Found <i>not to cause</i> tuberculosis.
27	" "	B 39	...	" "
28	" "	B 40	...	" "
29	" 17th	B 38	30	Broken in Transit.
30	" 22nd	B 37	30	Negative. Found <i>not to cause</i> tuberculosis.
31	" "	B 36	12	" "
32	" "	40	22	" "
33	" "	B 39	34	" "

Samples 1, 4 and 33 were from cows supplying the Fever Hospital and the Infirmary. These, as well as all the others, were tested by inoculation and found not to cause tuberculosis.

COWSHED INSPECTION.

The usual circular letter sent by you in May to all the cowkeepers in the Borough regarding the limewashing of cowsheds has again been complied with in a satisfactory manner.

On March 29th, and September 28th, during visits of inspection, I found pigs kept in cowsheds along with dairy cows. On August 31st I also noticed that hens were kept in a cowshed.

The owners of the pigs and hens were requested to immediately remove them from the cowsheds, which they did.

Several cowsheds do not in many respects comply with the Regulations, and particulars regarding them have already been reported to you for consideration.

Small improvements in the lighting and ventilation of a few sheds have been made during the year.

New Regulations giving greater and more definite powers with regard to dairy cattle, cowsheds, etc., are required before many of the most desirable improvements can be enforced.

I am, Sir,

Your obedient Servant,

JAMES MILLER STIRLING,

M.R.C.V.S., D.V.S.M. (Vict.).

Veterinary and Chief Meat Inspector.

SALE OF FOOD AND DRUGS ACT.

The largest number of samples purchased in Blackburn during 1906 under the above Act consisted of milk. It is of the utmost importance that the milk should be of as good quality as possible, since it is the main article of diet for young children and invalids.

Three hundred and one samples were taken during the year, and of these 143 were informal samples, that is, they were not divided into three parts and sealed according to law. If the analysis of any informal sample showed adulteration, then an official sample was taken from the same vendor with all due observance of the Food and Drugs Act.

The following letter was received from the Local Government Board during the year:—

Circular.
Authorities under Sale
of Food and Drugs Acts.

Preservatives in Milk.

Local Government Board,
Whitehall, S.W.

11th July, 1906.

Sir,

I am directed by the Local Government Board to request the attention of the Council to the subject of the addition of preservatives to milk.

A serious objection to the use of preservatives in milk has been pointed out in the report of the Departmental Com-

mittee on Preservatives and Colouring Matters in Food, who state that preservatives in milk "may be relied on to protect "those engaged" in the milk traffic "against the immediate "results of neglect of scrupulous cleanliness. Under the "influence of these preservatives milk may be exposed with- "out sensible injury to conditions which otherwise would "render it unsaleable. It may remain sweet to taste and "smell and yet have incorporated disease germs of various "kinds, whereof the activity may be suspended for a time "by the action of the preservative, but may be resumed be- "fore the milk is digested."

This Committee, after hearing evidence from milk traders, concluded that the addition of a preservative to milk is not necessary for the purposes of the milk trade, even in hot weather or where the supply of so large a place as London is concerned, and the Committee recommended that no preservatives should be added to milk.

In making this recommendation, the Committee had special regard to evidence received as to two classes of preservative substances which, under various names, are frequently used as preservatives in milk, viz. (1) formalin (a 40 per cent. solution of formic aldehyde) and other preparations of formic aldehyde; and (2) boron preservatives (boric acid, borax, or mixtures of boric acid and borax). The Committee considered that the addition to milk of formalin or preparations of formalin, even when the amount which could be detected was minute, was objectionable, on account of the alterations effected by formalin in the character of certain of the constituents of milk and of its ability to interfere directly with digestive processes.

Although in the view of the Committee boron preservatives might reasonably be employed in the case of certain foods,

within defined limits and subject to a declaration as to their presence and amount, the Committee recommended their exclusion from milk altogether; partly for the reasons above indicated, and partly also in consideration of the immense importance of pure milk for the nutrition of infants, invalids, and convalescents, and of the comparatively large quantity of milk which may be taken, particularly by children, in comparison with the other foods in question. Moreover, the Committee had evidence "pointing to an injurious effect of boracised milk upon the health of very young children."

Since the report of the Committee was made, the Board have from time to time had before them further evidence on the subject, and this supports the conclusions of the Committee not only as to the objections to the use of preservatives on the ground of public health, but also as to the ability of milk traders to conduct their business without use of preservatives. Thus in certain boroughs in London and elsewhere in which milk samples are systematically tested for preservatives, the presence of preservatives in milk, at any time of the year, has been found to be exceptional; and there is evidence to shew that a very large number of milk vendors conduct their business without the use of these substances, even where the milk comes long distances by rail.

In some districts action under the Sale of Food and Drugs Acts has been frequently and successfully taken in order to bring about the disuse of preservatives in milk. Proceedings instituted against vendors of milk containing preservatives have usually been taken under Section 6 of the Sale of Food and Drugs Act, 1875. Conviction has followed, it being held that when the purchaser who asks for milk is supplied with milk plus a preservative he does not receive an article of the nature, substance, and quality demanded, and is prejudiced thereby.

The Board are of opinion that action under the Sale of Food and Drugs Acts in regard to preservatives in milk is desirable, and that this subject deserves attention from all authorities in England and Wales charged with the execution of these Acts.

In this connection the following suggestions are made for adoption by the Council where a similar procedure is not already followed:—

1. *Information from public analysts.*

The Board suggest that public analysts should be requested

- (a) to record in their quarterly reports how many milk samples have been examined during the quarter with a view to ascertaining the presence of substances commonly in use as preservatives, and with what result; and to draw the attention of the Council to instances where the use of preservatives in milk other than boron preservatives and formalin have come under notice;
- (b) to report, on completion of analysis, the facts as to samples of milk which have been found to contain any added preservative.

2. *Administrative action where preservatives in milk are reported.*

The Board would suggest that the Council should notify to milk traders, by circular or otherwise, that action will be taken under the Sale of Food and Drugs Acts in instances where preservatives are reported in milk.

Subject to this being done, and to exceptional cases of the kind referred to under the heading numbered 3 below, the Board consider that when the presence of any added preservative is reported in a sample of milk taken in accordance with the provisions of the Sale of Food and Drugs Acts, the case should in ordinary circumstances be regarded as one for the institution of proceedings under those Acts.

3. *Declaration and Notices.*

The Board think it desirable to draw attention to cases in which the vendor of the milk, with the object of escaping liability under Section 6 of the Sale of Food and Drugs Act, 1875, declares to the purchaser by means of a notice, label, or otherwise, that he does not sell "milk" as such, or that its quality in regard to preservatives or other constituents is not guaranteed, or that it contains some added preservative.

The Board would suggest the desirability of frequent sampling in cases where "milk" is sold subject to declarations of the kind, with a view to ascertaining the condition of such milk in regard to preservatives.

The nature of the declaration made should in all cases be carefully recorded by the officer taking the sample, and should also be reported to the analyst when the sample is transmitted for analysis.

Where preservatives are reported in milk thus sold, the question will arise whether, in view of the nature and quantity of the preservatives added, it can be considered that the article has been rendered injurious to health, or that the purchaser has been prejudiced, to an extent which would justify the institution of proceedings under Section 3 or Section 6 of the Sale of Food and Drugs Act, 1875, notwithstanding the declaration made at the time of purchase.

This question is not without difficulty in view of the general objection to the employment of any preservatives in milk referred to above.

As regards formalin and boron preservatives, however, the Board are advised that the presence in milk of formalin to an amount which is ascertained by examination *within three days of collecting the sample* to exceed 1 part in 40,000 (1 part in 100,000 of formic aldehyde) raises a strong presumption that the article has been rendered injurious to health, and that the purchaser has been prejudiced, in the above sense; and also that similar presumption is raised where boron preservatives are present in milk to an amount exceeding 57 parts of boric acid per 100,000, or 40 grains of boric acid per gallon.

It appears desirable that the addition of preservatives to skim milk, separated milk, and condensed milk, should be watched and controlled on similar lines.

Additional copies of this Circular are enclosed for transmission to the public analyst, and for use by executive officers under the Sale of Food and Drugs Acts. The Circular will be placed on sale, and copies can then be obtained from Messrs. Wyman & Sons, Limited, 109, Fetter Lane, Fleet Street, London, E.C., either directly or through any bookseller.

I am, Sir,

Your obedient Servant,

S. B. PROVIS, Secretary.

The Town Clerk. *or*

The Clerk to the County Council.

In accordance with the above I sent the following letter to each purveyor of milk in the Borough:—

Public Health Office,

51 Ainsworth Street, Blackburn,

September 1st, 1906.

Preservatives in Milk.

Dear Sir or Madam,

The question of the addition of preservatives to milk has recently been under the consideration of the Local Government Board, who are advised that such preservatives are not only unnecessary, even in hot weather, but that they may be injurious to health.

I am therefore directed to inform you that the presence of any preservative in a sample sold as milk without notice will be treated as an infringement of the sale of Food and Drugs Acts.

The preservatives generally used are formalin and boracic acid, known by various names such as formalin (a 40 per cent. solution of formic aldehyde) and other preparations of formic aldehyde; and boron preservatives (boric acid, borax, or mixtures of boric acid and borax).

I wish to remind you that it is necessary for each purveyor of milk in the Borough to be registered. This may be done free of charge at the Town Clerk's Office.

Also all vessels containing skimmed milk for sale must be labelled as such.

I am,

Yours faithfully,

ALFRED GREENWOOD.

Medical Officer of Health.

No preservative was found in any sample of milk examined during the year.

REPORT OF INSPECTOR OF NUISANCES.

Public Health Office,
51 Ainsworth Street,
Blackburn.

To the Medical Officer of Health.

Dear Sir,

I beg to submit to you the following Report of the Sanitary work carried out during the year 1906.

INHABITED VANS.

Regular visits to Wrangling, Newton Street, and Burnley Road districts have been paid during the year, and 112 inspections have been made. Strict enforcement of the cleanliness of the inside and the surroundings of these dwellings have been insisted upon, and in some cases, where I thought they were very undesirable persons, I have objected to their presence. The occupiers of the vans in connection with the roundabouts and shows on the

Wrangling arranged with the Scavenging Department for a regular removal of their refuse. The vans and shows on the Market were inspected during the Fair week, and were found very clean and free from any infectious disease. I wish here to express my deep regret at the loss of a most kind and willing helper in the late Market Inspector.

CANAL BOATS ACTS, 1887 and 1884.

In compliance with the Acts and Regulations, 200 Canal Boat inspections have been made during the year, as compared with 190 in 1905, with the view of ascertaining whether such Regulations were being carried out or not.

Fifteen infringements of these Acts have come under notice, namely:—

Three masters without Certificates.

Five boats in want of painting.

Five boats dirty for want of cleaning.

Two boats in a leaky condition.

Eleven notices have been served notifying the owners of the infringements of the various clauses of the Local Government Board Regulations. Ten Certificates have been received and one inspection made, clearing up the notices served. The masters of the dirty boats were censured.

No infectious disease was met with, and therefore no detention of boats for cleansing and disinfection was required.

There are 99 boats on the Register. Four new boats have been registered, and one boat belonging to Liverpool has been

re-registered through change of owner. Two of the new boats have been built to replace old ones now broken up, and have been given the same numbers on the register.

In the 200 boats there were met with 353 males, 82 females, and 55 children. Forty-one of the children were under school age, ten on a holiday trip, and four about school age who were probably playing truant. Two of these were reported to the Education Office, and the others cautioned.

Table XCVIII. — INSPECTION OF FOOD AND DRUGS.

Articles Analysed.	Number Analysed.	Result of Analysis.			Extent of Adulteration.	Result of Proceedings.
		Genuine	Adulterated	Doubtful		
Milk	138	126	5	7	33 % deficient in cream	Summoned and fined £5 and costs
					11 $\frac{2}{3}$ % "	Summoned and fined £1 and costs
					22 $\frac{1}{3}$ % "	Summoned and fined £3 and costs
					28 % "	Informal sample and vendor cautioned and retried
					16 $\frac{2}{3}$ % "	Summoned and dismissed against the middleman & proceedings pending against farmer
					Seven of these were either informal samples or too weak for prosecution.	
Butter	50	49	1	...	6 % of borates	Informal & vendors retried
Coffee	37	35	2	...	15 % of chicory 5 % Foreign matter	
Pepper	14	13	1	...	Small quantity of bleached and dyed pepper husks	Informal
Tinned Meat...	14	12	2	...	12 grains of borates per lb. & coloured with organic dye 25 grains of borate and coloured with oxide of iron	
Lard	11	11	...	...
Margarine	9	9	...	...
Beer.....	8	8	...	...
Jam	4	4	...	...
Essences	6	6	...	...
Arrowroot.	2	2	...	...
Cheese	2	2	...	...
Mustard ...	1	1	...	...
Sugar	1	1	...	...
Sweets.....	1	1	...	...
Baking Powder	1	1	...	...
Pickles ...	1	1	...	...
Tea	1	1	...	...
Total...	301	283	11	7		

COMMON LODGING-HOUSES.

Four new houses have been registered, namely :—47 and 49 Nab Lane, 8 Cowell Street, and 7 and 9 Daisy Street ; and one house which has been closed some time has been re-opened after extensive repairs and alterations. Three registrations have been cancelled.

The present number on the Register is 21, compared with 19 in 1905, accommodating 910 adults and 20 children.

Seven hundred and fifty-three visits have been paid to these houses during the year. Cleanliness and good order have again been well maintained, and there has been an absence of any reported infectious disease.

The following is a list of the Common Lodging-houses in the Borough :—

<i>Situation of Premises.</i>	<i>No. of Rooms.</i>	<i>No. Registered for.</i>
7 Albion Yard	3	16 adults
26 and 28 Penny Street	10	33 " and 9 children
26 Bradshaw Street.....	3	18 "
74 and 76 Chapel Street	5	36 "
30 and 32 Leyland Street.....	4	20 "
83 Moor Street	3	11 "
13 Grimshaw Park	3	18 "
86 to 92 Chapel Street	7	35 " " 1 child
104 Mary Ann Street	5	37 " " 1 child
6 and 8 Mount Pleasant.....	8	65 "
66 Moor Street	20	93 " " 6 children
59 Water Street	5	25 " " 2 children
56 Chapel Street	7	37 "
54 Syke Street	6	32 "
33 Larkhill Street	3	16 " " 1 child
19 " "	41	320 "
33 Joiners Row.....	4	25 "
47 Nab Lane	2	8 "
49 " "	2	12 "
8 Cowell Street.....	2	16 "
7 and 9 Daisy Street	2	37 "

HOUSES LET IN LODGINGS.

These are houses, one or more rooms of which are sub-let by the landlord or lodging-house keeper to members of one or more other families. They are formed chiefly from old dwelling-houses and closed beerhouses, situated in the poorer districts, and are occupied by aged couples who have been reduced, tramp-hawkers, and thriftless couples. The rooms are let scantily furnished with tables, chairs, beds, and a few cooking utensils, at an average of 4s. 1d. per week for rooms on the ground floor, which contain oven and boilers, and 3s. 6d. on the first and second floors, which only contain a bedroom fire-range. There are 60 of these houses on the Register, compared with 50 last year, and they contain 182 rooms. One thousand eight hundred and eighteen visits have been paid to them during the year. The cleanliness of the rooms and the yearly whitewashing have been fairly well maintained. The sanitary accommodation in most of them is not of a good type, as they consist of a pail closet, which often proves inadequate for this class of tenants. The yards of many of them are common and cobbled, and cannot be properly cleansed. The fuel in all cases is carelessly stored in a corner of the room, which creates untidiness. Only the rooms on the ground floors are provided with cooking-ranges and cupboards, the other rooms having no provision for storing food, which is thus kept exposed on the tables in the rooms.

The fire-ranges in many of the rooms on the first floors of these houses are very poor and broken down, and inadequate for warming the rooms or for cooking. The walls in many of these houses are dilapidated and the woodwork requires painting. Most of the rooms on the ground floors are papered, which I think would be better colour-washed yearly, or painted and washed down yearly.

I have suggested, for the purpose of free access during the day, that duplicate keys be kept by the landlord so that frequent

inspections as regards cleanliness can always be made, and I am pleased to say that in many cases this has been carried into effect, and I have no doubt that the others will follow.

In most houses the back portion of the premises on the ground floor is set apart for lavatory and washing purposes, a washboiler in many of them being provided ; but I find in most of them they are not used, as the tenants prefer to wash in their living and sleeping rooms. I would, in conclusion, suggest that the following alterations be carried out :—

1. That the walls, floors, and ceiling of all the rooms be repaired and their surfaces made smooth, and that the walls be either painted and washed yearly, or white-washed.
2. That all windows be made to open one-half their extent and re-constructed upon the sash principle.
3. That a cupboard for storing food and a coal-box for each room be provided.
4. That a proper enamelled wash-basin be provided for each room.
5. That proper fire-ranges be provided in the rooms above the ground floors.
6. That all pail closets be abolished and replaced by fresh-water pedestal closets of approved type
7. That the yards be properly flagged so as to run dry and effectually take off all waste water.

The following is a list of the Houses Let in Lodgings :—

Table XCIX.—HOUSES LET IN LODGINGS.

Situation of Houses Let in Lodgings.	No. of Rooms	Living and Sleeping	Living only or Sleeping only	Cubical Contents	Maximum No.	Rents
		A	B			s. d.
70 Chapel street	3	2	1 sleeping	1435 1232 1255	2 2 2	4 1 3 6 empty
78 Chapel street	3	3	...	1624 1311 1072	3 2 2	3 6 3 6 3 6
80 Chapel street	3	3	...	1188 1028 798	2 2 1	3 6 3 6 3 6
23 Pearson street	4	4	...	1590 1149 1051 1149	3 2 2 2	4 0 3 6 3 6 3 6
8 Jackson street	5	4	sleeping	1341 1215 1028 621 1181	2 2 2 1 2	5 0 4 0 4 0 4 1
82 Mary Ann street	3	3	...	1846 1461 1319	3 2 2	4 0 3 6 3 6
84 Mary Ann street	3	3	...	1968 1541 1398 1159	3 3 2 2	4 1 3 6 3 6 4 0
1 Jardine street	3	3	...	922 1173	1 2	2 6 3 6
4 Jardine street	2	2	...	1184 1210	2 2	4 0 3 6
5 Moor street	3	3	...	1576 1568 1396	3 3 2	4 0 3 9 3 6
7 Moor street	3	3	...	1556 1374 1705	3 2 3	4 6 3 6 3 9
17 Moor street.....	3	3	...	1584 1948 1382	3 3 2	4 0 4 1 4 1

Table XCIX.—HOUSES LET IN LODGINGS (continued).

Situation of Houses Let in Lodgings	No. of Rooms	Living and Sleeping	Living only or Sleeping only	Cubical Contents	Maximum No.	Rents	
						s.	d.
19 Moor street.....	3	A 3	B	1541	3	4	0
				1629	3	3	6
				1370	2	3	6
25 Moor street.....	2	2		1086	2	4	0
				1416	2	3	6
35 Moor street.....	4	3	1 living	1642	3	4	0
				1002	2	3	6
				674	1		
				1461	2	3	6
37 Moor street.....	3	3		1515	3	4	1
				1529	3	3	6
				1240	2	3	6
59 Moor street.....	3	3		1607	3	4	6
				1811	3	3	6
				1392	2	3	6
61 Moor street.....	3	3		1449	2	4	1
				1464	2	3	6
				1050	2	3	6
10 Moor street.....	3	3		960	2	4	0
				1387	2	3	6
				960	2	3	0
12 Moor street.....	3	2	1 sleeping	1002	2	4	0
				1479	2	4	0
				1036	2		
20 Moor street.....	4	3	1 living	1052	2	4	0
				1300	2	3	6
			1329	2	4			0
			650	1		living along with No. 2 room	
76 Moor street.....	3	3		1035	2	4	0
				1410	2	4	0
				1187	2	3	6
78 Moor street.....	3	3		1222	2	4	0
				1476	3	3	6
				1314	2	3	6
118 Moor street.....	3	3		1483	3	4	0
				1618	3	3	6
				1141	2	3	6

Table XCIX.—HOUSES LET IN LODGINGS (continued).

Situation of Houses Let in Lodgings.	No. of Rooms	Living and Sleeping	Living only or Sleeping only	Cubical Contents	Maximum No.	Rents
15 Cleaver street	6	A 6	B	1988	4	s. d. 4 8
				1060	2	4 6
				1809	3	4 1
				1594	3	4 1
				1795	3	3 6
				1757	3	3 6
23 Cleaver street	3	3		1321	2	4 0
				895	1	4 0
				1696	3	3 6
25 Cleaver street.....	5	5		1276	2	4 0
				1658	3	4 0
				1354	2	3 6
				1630	3	3 6
				1620	3	3 6
27 Cleaver street.....	2	2		1185	2	4 0
				1352	2	4 0
4 Cleaver street	3	3		2074	4	4 1
				2454	4	4 8
				1894	3	4 0
10 Cleaver street.....	3	3		1336	2	4 3
				1604	3	4 1
				1528	3	4 1
28 Cleaver street.....	4	2	1 living	1385	2	4 0
			1 sleeping	1036	2	3 6
				610	1	
				1552	3	3 6
30 Cleaver street.....	3	3		1998	3	4 0
				1768	3	3 6
				1472	2	3 6
9 Syke street	4	4		1198	2	4 1
				736	1	2 0
				1181	2	3 6
				1190	2	3 0
15 Syke street	3	3		1589	3	4 8
				1879	3	4 0
				1179	2	3 6

CIX.—HOUSES LET IN LODGINGS (continued).

Situation of Houses Let in Lodgings	No. of Rooms	Living and Sleeping	Living only or Sleeping only	Cubical Contents	Maximum No.	Rents
12 Syke street	9	A 9	B	643 1185 1332 1666 1118 1135 1633 1300 1159	1 2 2 3 2 2 3 2 2	2 6 4 0 4 0 4 0 3 6 2 6 3 6 3 6 3 6
52 Syke street	1	1		1298	2	3 6
56 Syke street	1	1		1433	2	3 6
8 Cowell street	5	5		1790 1135 1722 1169	3 2 3 2	4 1 4 1 4 1 3 6
4 Smithies street.....	6	3	3 living	1436 } 1269 } 1064 } 640 } 1104 } 911 }	3 1 2	4 0 4 0 4 6
91 Chapel street	4	1	1 living 2 sleeping	1286 1236 1198 1417	2 2 2 2	3 6 4 8
127 Chapel street	3	3		1511 1743 1480	3 3 3	4 0 3 6 3 6
129 Chapel street	3	3		1535 1802 1550	3 3 3	4 0 3 6 3 6
131 Chapel street	3	3		1647 1638 1434	3 3 2	4 0 3 6 3 6
58 Chapel street	2			1679 1231	3 2	4 1 3 6

Table XCIX.—HOUSES LET IN LODGINGS (continued).

Situation of Houses Let in Lodgings	No. of Rooms	Living and Sleeping	Living only or Sleeping only	Cubical Contents	Maximum No.	Rents
60 Chapel street	3	A 2	B 1 sleeping	1389	2	s. d. 4 1
				1415	3	5 3
				1409		
64 Chapel street	3	2	1 sleeping	1345	2	4 8
				1356	2	3 6
				1409	2	empty
3 Rodgett street	2	2		1067	2	4 0
				1307	2	3 6
5 Rodgett street	2	2		1067	2	4 6
				1307	2	3 6
7 Rodgett street	2	2		1067	2	4 6
				1307	2	3 6
9 Rodgett street	2	2		1067	2	4 6
				1307	2	3 6
11 Rodgett street	2	2		1067	2	4 6
				1307	2	3 6
19 Accrington road.....	3	3		672	1	3 6
				3095	6	4 1
				1344	2	4 0
2 Printer street	2	2		1274	2	4 0
				1630	3	3 6
7 Mill street.....	2	2		1004	2	4 0
				1259	2	3 6
9 Mill street	2	2		1004	2	4 0
				1274	2	3 6
13 Mill street	2	2		1383	2	4 0
				1383	2	3 6
21 Burnley road	3	3		1303	2	5 4
				759		
				1147	2	3 6
4 Brewery row.....	2	2		1065	2	4 0
				1073	2	3 6
6 Brewery row.....	2	2		1210	2	4 0
				1318	2	3 6
16 Brewery row	3	3		1633	3	3 6
				1247	2	3 6
				1200	2	3 6

The cubic space for the number of lodgers for living and sleeping rooms is calculated on a basis of 500 cubic feet per person.

COMPLAINTS FROM THE PUBLIC.

Four hundred and fourteen complaints have been received. They have been promptly investigated and the necessary action taken for their abatement.

EXAMINATION OF DRAINS.

Drains tested with smoke	524
Drains tested with water	634
Drains exposed and examined	383
Tracing for leakage	101

SMOKE OBSERVATIONS OF FACTORIES.

Two hundred and five observations were taken, of which 18 exceeded the limit allowed.

Eighteen notices to abate the nuisance caused by the emission of black smoke were served and three prosecutions were instituted.

The following is a table showing the results obtained and the action taken:—

TABLE C.—SMOKE OBSERVATIONS.

Name of Mill.	Result of Observation			No. of Boilers.	If Stokers	Action taken.
	B.	F.	N.			
Paradise 1	7	30	23	4	Yes	Notice
„ 2	4	19	37	...	...
Bankfield Mill 1	4½	19½	36	2	No	
„ 2	12	19	29	..	..
Jubilee 1	2	13	45	1	No	
„ 2	3½	13½	43	...	..
„ 3	2½	12½	45	...	..
Albert Mill Co. 1	2½	15½	42	2	No	
„ 2	3	13	44	...	..
Ordnance Mill 1	4	17	39	3	No	
„ 2	3½	16½	40	...	..
India Mill	2½	12½	45	2	No	
Greenbank	3½	16½	40	2	No	
Holehouse 1	3	11	46	1	No	
„ 2	2	10	48	..	..
Furthergate 1	3½	17½	39	3	No	
„ 2	3	12	45	..	..
Alexandra (No. 2)	4	22	34	1	No	
Audley Range 1	2½	12½	45	1	Yes	
„ 2	3½	23½	33	...	..
„ 3	2½	10½	47	...	..
Dewhurst St. 1	3½	14½	42	1	No	
„ 2	2½	11½	46	...	..
Rosehill Foundry	2	14	44	1	No	
Eanam Bridge 1	3	19	38	1	No	
„ 2	3½	14½	42	...	..
„ 3	3	26	31	...	..
Rosehill Laundry 1	1½	10½	48	1	No	
„ „ 2 .....	..	9	51	..	..
Rosehill 1	4	13	43	2	No	
„ 2	5	11	44	..	..
Wharf St. (Joinery)	2	11	47	1	No	
Cicely Bridge	2	18	40	3	No	
Alma Mill	1	19	50	1	No	
Higher Audley Street 1	2	17	41	1	No	
„ „ 2	1	13	46	...	..
Audley Bridge 1	3	21	36	1	No	
„ 2	3	15	42	...	..
„ 3	2½	16½	41	...	..
Prospect 1	1½	15½	43	1	No	
„ 2	3½	12½	44	...	..

SMOKE OBSERVATIONS—continued.

Name of Mill.	Result of Observation			No of Boilers.	If Stokers.	Action taken.
	B.	F.	N.			
Prospect 3.....	3	21	36	...	...
Canton	2	16	42	2	No	
River Street	1	9	50	1	No	
Audley Hall 1.....	2	13	45	2	No	
„ 2.....	2½	13½	44	...	...
Bennington Street ..	2	13	45	1	No	
Aud'y R'ge Brick Wks	2	12	46	1	No	
Pringle Street „ „	1½	15½	43	1	No	
Greenlow 1.....	3	18	39	1	No	Notice sent
„ 2.....	8½	15½	36	...	...
„ 3.....	...	...	60	...	...
Harwood Street 1....	7	15	38	2	No	Notice sent
„ 2.....	4	19½	36½	...	...
Audley Range (No 1) 1	13½	22	24½	1	No	Notice
„ „ 2	3	32	25	...	...
Wharf Street.....	3	18	39	1	No	
Lower Darwen .....	...	12	48	2	Yes	
„ Paper Mill	1½	11½	47	1	No	
„ Joinery W'ks	...	7	53	1	No	
Bridgewater	3	19	38	2	No	
Hart Street Works 1..	2	14	44	1	No	
„ „ 2...	2	13	45	...	...
Shackleton's Corn Mill	...	13	47	2	Yes	
Albert Mill (D).....	3½	13½	43	2	No	
Lion Brewery 1.....	5½	28½	26	1	No	Notice
„ 2.....	...	24	36	...	...
Royal .....	...	29	31	1	Yes	
Daisy Street .....	...	37	23	2	No	
Fort St. Iron Foundry	...	8	52	1	No	
Navigation.....	4½	45½	10	4	No	
Canal	3	33	24	1	No	
Quarry Street.....	...	38	22	3	No	
Eanam Brewery.....	3½	41	15½	3	No	
Larkhill St. Reed Wks	...	39	21	1	No	
Blackburn Brewery ..	...	30	30	1	No	
Gorse Bridge	7½	36	16½	1	No	Notice
Imperial Mill	3	34	23	4	No	
Stanley Street 1.....	11	15	34	3	No	Notice
„ 2.....	2	15	43	...	...
Greenbank 1..	8½	18	33½	1	No	Notice
„ 2.....	1½	18½	40	...	...

SMOKE OBSERVATIONS—continued.

Name of Mill.	Result of Observation			No. of Boilers	If Stokers.	Action taken.
	B.	F.	N.			
Brookhouse Mill Co...	2½	45½	12	5	No	
Ward Street	1	41	18	2	No	
Roe Lee (No. 1) 1.....	6	44	10	2	on one not in use	Notice to abate
„ 2.....	10	37½	12½	...	...	Fined 20/- & costs
Roe Lee (No. 2).....	..	19	41	2	Yes	
Crystal Spring						
Dye Works 1 ..	11½	32	16½	1	No	Notice to abate
„ „ 2...	20½	16½	23	...	...	Fined 20/- & costs
Carr Cottage	3	18	39	1	No	
Moss Street Mill	7	29	24	2	No	
Bright Street Mill.....	...	17	43	1	No	
Boundary	9½	28½	22	1	No	Notice
Bastwell Dye Works..	1½	27½	31	1	No	
Columbia 1.....	1	16	43	2	No	
„ 2.....	½	8	51½	...	...
„ 3.....	3	12	45	...	...
Armenia 1.....	1	17	42	2	No	
„ 2.....	...	9	51	...	...
„ 3.....	4½	8½	47	...	...
Wellington (Old) 1 ..	...	8	52	2	Yes	
„ „ 2 ..	...	19	41	...	...
Wellington (New) 1...	...	13	47	3	No	
„ „ 2...	1	17½	44½	...	...
Highfield Mill 1.....	8	15½	36½	2	No	Notice
„ 2.....	1	10	49	...	...
„ 3	5	13	42	...	...
„ 4.....	5	9½	45½	...	...
„ 5.....	3	4	43	...	...
Albert Mill 1	1	7	52	1	Yes	
„ 2	½	2½	57	...	...
„ 3 .....	...	7	53	...	...
Chadwick Street .....	...	11	49	1	Yes	
Britannia .....	...	7	53	1	Yes	
Gladstone 1	1	9	50	1	No	
„ 2	17	8	35	...	...	Notice
„ 3 .....	...	19	41	...	...
Cardwell Place						
Corn Mill 1 ..	1	21	38	1 single flued	No	
„ „ 2...	3½	19½	37	...	...
Crossfield 1	3	9	48	2	No	
„ 2	10	8	28	...	...

SMOKE OBSERVATIONS—continued.

Name of Mill.	Result of Observation			No. of Boilers	If Stokers.	Action taken.
	B.	F.	N.			
Crossfield 3	17	8	35	...	..
Sanitary Pipe Works..	2	9	49	1	No	
Mosley Street.....	...	17	43	1	Yes	
Nova Scotia Mill 1 ..	1	14 $\frac{1}{2}$	44 $\frac{1}{2}$	2	No	
„ 2 ...	$\frac{1}{2}$	14 $\frac{1}{2}$	45	...	...
„ 3 ...	10	9 $\frac{1}{2}$	40 $\frac{1}{2}$	...	...	Notice
Atlantic 1.....	...	10	50	1	Yes	
„ 2.....	...	8 $\frac{1}{2}$	51 $\frac{1}{2}$	...	...
„ 3.....	...	10 $\frac{1}{2}$	49 $\frac{1}{2}$	...	...
Infirmary Mill 1.....	...	12	48	1	Yes	
„ 2.....	3	4 $\frac{1}{2}$	52 $\frac{1}{2}$	...	...
Park Place 1.....	1	27	32	3	No	
„ 2... ..	2	13 $\frac{1}{2}$	30 $\frac{1}{2}$	...	...
„ 3... ..	3	19 $\frac{1}{2}$	37 $\frac{1}{2}$	...	...
Park Bridge Mill 1 ..	...	45	15	2	Yes	
„ 2 ...	1 $\frac{1}{2}$	50 $\frac{1}{2}$	8	...	...
Brunswick 1.....	...	13	31	1	Yes	
„ 2... ..	...	16	44	...	...
„ 3.....	5	12	43	...	...
„ 4 .....	...	14 $\frac{1}{2}$	45 $\frac{1}{2}$	...	...
„ 5	5	13	47	...	..	Notice
Unity 1	1	12	23	1	No	
„ 2	1	17	42	...	...
„ 3	2	8	50	...	...
George Street West...	1	13	46	1	No	
Harley Street.....	...	14 $\frac{1}{2}$	45 $\frac{1}{2}$	1	Yes	
Nab Lane .....	...	13	47	1	Yes	
Cumpstey Street	1	15	44	1	Yes	
Paterson Street	2	14	44	1	No	
Commercial Mill 1 ...	1	9	50	1	No	
„ 2 ...	1 $\frac{1}{2}$	11	47 $\frac{1}{2}$	...	...
Sharples St. Bolt W'ks	...	23	37	1	No	

SMOKE OBSERVATIONS—continued.

Name of Mill.	Result of Observation			No. of Boilers.	If Stokers.	Action taken.
	B.	F.	N.			
Chadwick Street 1 ...	..	20	40	1	No	
„ „ 2 ..	2	12	46	...	...
Byrom Street Saw.....	5	11½	43½	1	No	
Canterbury Street						
Dye Works 1...	..	39	21	2	Yes	
„ „ 2...	3	27	30	...	...
Rockfield 1.....	...	17	43	1	Yes	
„ 2	3	7	50	...	...
Carlisle Street	1	12	47	1	No	
Walpole Street	3	14	43	1	No	
Dutton's Brewery... ..	3	16	41	1	No	
Shaw's „ .....	..	7	53	1	Yes	
Canterbury Street						
Copper Works...	2	9	49	1	No	
Cardwell Mill 1.....	1	28	31	3	Yes	
„ 2 ... ..	...	36	24	...	...
Albert (Mushroom) 1..	..	26	34	1	No	
„ „ 2..	1	29	30	...	...
Hollin Bank (Ring) 1	3	27	30	2	Yes	
„ „ 2	2	45	13	...	...
Hollin Bank W'ving 1	2	27	31	1	Yes	
„ „ 2	1	35	24	...	...
„ „ 3	½	38½	21	...	...
Garden Street 1.....	3½	44½	12	2	1 Yes 1 No	
„ 2.....	3	40	17	...	...
Bank Top Mill 1	1	23	36	1	Yes	
„ 2	1½	40½	18	...	...
Lancaster Street .....	..	41	19	1	No	
Wensley Fold Mill ...	..	38	22	1	Yes	
Commercial. George						
Street West...	..	23	37	1	No	
Turner Street... ..	...	35	25	1	No	
Griffin, P.	2½	47½	10	4	No	
Livesey	1	47	12	6	No	
Primrose 1.....	7	43	10	2	No	Notice
„ 2.....	11	31	18	...	...
Woodfield	½	20	46	1	Yes	
Shakespeare Mill 1 ...	9	29½	21½	2	Yes	Notice
„ 2	½	39½	20	...	...
Waterloo	1	28	31	1	No	
Waterfall.....	3½	48	8	5	No	

SMOKE OBSERVATIONS—continued.

Name of Mill.	Result of Observation.			No. of Boilers.	If Stokers.	Action taken.
	B.	F.	N.			
Stakes Hall.....	1	44	15	4	No	Notice
Havelock 1	1½	38½	20	1	No	
„ 2	9	47½	3½	...	...
Whiteley's 1 .....	..	39	21	3	Yes	
Moorgate Street, H ...	3	36	21	2	No	
Moorgate Street, RW	½	26½	33	1	No	
Bridge 1.....	5½	46½	8	1	No	
„ 2.....	6	20	34	...	...
Pioneer .....	..	18	42	1	Yes	
Belle Vue	2	30	28	1	No	
Peel.....	...	39	21	1	Yes	
George Street West...	1½	38½	20	1	No	
Duckworth Field	1	32	27	1	Yes	

DISINFECTION.

One thousand and eighty-nine houses have been disinfected after cases of infectious diseases. The furniture, walls, ceilings, and floors of 1,086 rooms, were washed down with Chlorox, and 170 rooms fumigated with formalin vapour. Twelve classrooms at three schools were fumigated and four classrooms at one school were sprayed with a solution of Chlorox.

Two thousand two hundred and eighty-eight visits to infected houses were made for the purpose of supplying disinfectants, and 362 Typhoid pails from patients isolated at home were collected and their contents burnt at the destructor.

The following articles have been disinfected by steam :

1,659 beds.
1,830 mattresses.
1,389 bolsters.
2,166 pillows.
2,287 quilts.
2,329 blankets.
1,324 sheets.
2,716 suits of clothes.
970 carpets.
376 rugs.
1,384 curtains.
6,877 sundries.

The following articles have been removed to the destructor and destroyed by consent of the owners:—

64 mattresses, 20 beds, 7 pillows, 4 bolsters, 10 sheets, 8 suits of clothes, 4 carpets, 3 rugs, 8 curtains, and 34 sundries.

Two hundred and ten Library and other books were disinfected.

TABLE CI.

DESCRIPTION OF VISITS.

District—	1	2	3	4	TOTAL.
Visits to Common Lodging Houses	65	215	90	383	753
Houses let in Lodgings ...	406	393	251	768	1818
Common Yards, Back Roads and Passages ...	4127	890	1600	3558	10175
<i>Re</i> Infectious Diseases ...	1279	856	874	584	3593
Dwelling-houses inspected	2094	1910	1469	2321	7794
Work in Progress	745	1081	425	877	3128
Horse-Manure Middens	806	280	298	437	1821
Illegitimate Births	17	23	23	30	93
Deaths from Diarrhœa ...	47	43	64	30	184
School Inspection.....	...	27	33	...	60
Investigation of Nuisances	157	232	173	95	657
Smoke Observations ...	73	27	46	59	205
<i>Re</i> Feeding of Infants ..	660	721	751	573	2705
Miscellaneous	22	82	75	152	331

TABLE CII.

DESCRIPTION OF NOTICES ISSUED AND NUISANCES
REMEDIED.

	District—	1	2	3	4	Total.
Preliminary Notices served	308	478	266	272	1324	
Legal „ „	47	85	45	65	242	
Nuisances remedied from—						
Defective Drains	60	7	12	26	105	
Choked „	55	66	43	21	185	
Defective Water Closets	55	16	12	39	122	
„ Pail „	54	16	...	2	72	
„ Slop Water Closets	21	4	1	3	29	
„ Trap Gullies.....	29	17	1	19	66	
„ Sink Waste Pipes	107	74	20	36	237	
„ W.C. Cisterns and Flushing Fittings	89	37	4	26	156	
„ Urinals .....	...	1	1	...	2
„ Easing Troughs & Downspouts	117	38	17	49	221	
„ Soil Pipes.....	...	2	3	...	5	
„ Dishstones re-set.....	40	15	2	20	77	
Improper Drainage of Houses	13	1	...	2	16	
Yards unflagged	16	109	47	56	228	
Cellars „ .....	...	1	1	...	2
Yards badly paved or flagged	107	40	3	89	239	
Houses overcrowded	5	1	...	3	9	
Houses, Yards, Closets, and Cellar Areas in a filthy state	27	27	9	67	130	
Damp and defective house walls, roofs, &c. ..	60	22	14	15	111	
Insufficient Ventilation of Rooms .....	...	5	2	4	11
Defective Manure Middensteads.....	2	7	2	...	11	
Accumulation of Manure	806	213	276	431	1726	
„ Offensive Matter	4	23	...	4	31	
„ Stagnant Water	6	...	1	10	17	
Dwelling-houses whitewashed.....	130	52	35	119	336	
Poultry, &c., and Erections in Yards removed	48	16	15	9	88	
Ash Tubs provided or repaired	108	19	26	25	288	
Ash Pits and Pail Receptacles repaired	5	11	6	...	22	
Street Gullies, Ashpits, etc., reported to Scav- enging Department	2	65	20	8	95	
Ashpits and tubs ditto ditto	272	3	6	...	281	
Escape of Gas reported to the Gas Dept.	1	2	2	...	5	
Low chimneys raised .....	..	1	...	4	5

WORK VISITED AND ORDERED BY THE HEALTH
SUB-COMMITTEE.

Conversion of privies	596
Houses closed as unfit for habitation	56
Houses altered or closed	32
Insufficient closet accommodation	35
Unpaved and badly-paved yards	266
Demolition	23
Bakehouses	2
New drainage	35
Piggeries	5
Erections	8
Unpaved passages	6
Farms	5
Insanitary stables	3

The Magisterial proceedings, with the exception of those taken under the Food and Drugs Acts, were as follows:—

Three persons were summoned under Section 91 of the Public Health Act for the emission of black smoke.

Two were fined 20s. and costs, and one ordered to pay costs, and the nuisance to be abated within three months.

I am, Sir,

Yours obediently,

JAMES GRAHAM, Cert. R.S.I.,

Chief Sanitary Inspector.

TABLE CIII.

Population and Death-Rates of the various Sub-Districts and constituent Enumeration Districts (as extended in 1901) for the year 1906 :—

NORTHERN.

<i>Enumeration District.</i>	<i>Population at 1901 Census.</i>	<i>Death-rate for 1906.</i>
No. 1	1011	6.9
2	1020	14.7
3	583	8.5
4	1322	9.8
5	1191	10.0
6	872	21.7
7	729	6.8
8	1131	7.0
9	565	10.6
10	869	24.1
11	1205	17.4
12	1148	11.3
13	929	22.6
14	1166	25.7
15	1049	23.8
16	1227	6.5
17	1076	15.8
18	741	16.1
19	847	14.1
20	1011	17.8
21	907	14.3
22	1152	14.7
23	1011	10.8
24	967	11.3
25	1126	19.5
26	1146	10.4
27	839	11.9

<i>Enumeration District.</i>	<i>Population at 1901 Census.</i>	<i>Death-rate for 1906.</i>
28	1414	27.5
29	995	24.1
30	1133	35.3
31	1227	23.6
32	1098	14.5
33	620	25.8
34	873	12.6
35	1051	16.1
36	859	18.6
37	936	11.7
38	1177	14.4
39	908	20.9
40	1223	12.2
41	1055	15.1
42	793	13.8
43	474	12.6
44	1019	23.5
45	1240	22.5
46	859	16.2
47	1024	12.6
48	1278	22.6
49	1592	20.1
50	946	13.7
51	946	8.4
52	1306	6.8
53	1436	27.1
54	1322	34.7
55	1098	27.3
56	1191	19.3
57	1343	17.8
58	1283	10.9
59	1009	10.9
60	1004	10.9

SOUTHERN.

<i>Enumeration District.</i>	<i>Population at 1901 Census.</i>	<i>Death-rate for 1906.</i>
No. *1	636	53.4
2	584	47.1
3	631	22.1
4	1028	22.3
5	743	14.8
6	597	5.0
7	399	7.5
8	755	34.4
9	557	26.9
10	816	15.9
11	1137	14.0
12	1213	11.5
13	870	24.0
14	1072	13.9
15	720	23.6
16	799	23.7
17	1454	8.2
18	1215	27.9
19	1317	8.3
20	611	27.8
21	1438	18.7
22	1016	15.7

* The large Common Lodging-house in Larkhill Street is situated in this district, and has accommodation for about 320 lodgers. During the year 11 deaths occurred belonging to this Lodging-house, and this accounts for the high death-rate in this District.

<i>Enumeration District.</i>	<i>Population at 1901 Census.</i>	<i>Death-rate for 1906.</i>
23	1346	17.0
24	1294	9.2
25	2369	15.6
26	775	24.5
†27	1118	15.2
28	955	10.4
29	923	10.8
30	1299	14.6
31	615	21.1
32	690	34.7
33	655	18.3
34	909	12.1
35	1129	17.7
36	646	10.8
37	970	28.8
38	1120	17.8
39	458	17.4
40	472	25.4
41	830	22.8
42	465	23.6
43	1277	20.3
44	1461	20.5
45	980	17.3
46	1039	20.2
47	1131	19.4
48	1023	8.7
49	605	14.8

† The Union Workhouse is situated in this District, and during the year nine deaths occurred of persons whose address previous to admission could not be ascertained.

WITTON AND LIVESEY.

<i>Enumeration</i>		<i>Population at</i>		<i>Death-rate</i>
<i>District.</i>		<i>1901 Census.</i>		<i>for 1906.</i>
No. 1	.....	1240	.....	12.0
2	.....	1197	.....	16.7
3	.....	1076	.....	17.6
4	.....	953	.....	27.2
5	.....	1043	.....	13.4
6	.....	958	.....	18.7
7	.....	1036	.....	32.8
8	.....	1190	.....	11.7
9	.....	1115	.....	21.5
10	.....	1301	.....	15.3
11	.....	820	.....	10.9
12	.....	827	.....	7.2
13	.....	891	.....	6.7
14	.....	892	.....	4.4
15	.....	989	.....	15.1
16	.....	932	.....	11.8
17	.....	735	.....	9.5
18	.....	1056	.....	12.3
Part of 19	.....	144	.....	13.8
„ 20	.....	196	.....	5.1
„ 24	.....	194	.....	25.7

LOCAL GOVERNMENT BOARD.

TABLE I.—Vital Statistics of Whole District during 1906 and Previous Years.

Name of District: *BLACKBURN.*

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.			At all Ages.	Rate.*	TOTAL DEATHS IN PUBLIC INSTITUTIONS IN THE DISTRICT.	Deaths of Non-residents registered in Public Institutions in the District.	Deaths of Residents registered in Public Institutions beyond the District.	NET DEATHS AT ALL AGES BELONGING TO THE DISTRICT.		
		Number	Rate.*	Under 1 Year of Age.		Number.						Rate.*	Number.	Rate.*
				3	4										5	6	7	8	9	10	11	12	13
1896	123926	3552	28.6	611	172.0	2346	18.9	264	77	...	2269	18.3		
1897	124675	3629	29.1	752	207.2	2605	20.8	301	76	...	2529	20.2		
1898	125430	3662	29.1	750	204.8	2510	20.0	306	87	14	2439	19.4		
1899	126185	3643	28.8	706	193.7	2674	21.1	343	82	15	2607	20.6		
1900	126951	3438	27.0	762	221.6	2897	22.8	365	96	19	2820	22.2		
1901	127823	3386	26.5	654	193.7	2578	20.1	338	101	18	2495	19.5		
1902	130239	3357	25.7	530	157.8	2330	17.8	414	117	34	2247	17.2		
1903	131079	3304	25.2	523	158.2	2147	16.3	336	105	27	2069	15.7		
1904	131908	3100	23.5	595	191.9	2353	17.8	353	106	27	2274	17.2		
1905	132742	3193	24.0	467	146.2	2231	16.8	383	85	37	2183	16.4		
Averages for years 1896-1905.	128095	3426	26.7	635	184.7	2467	19.2	340	93	19	2393	18.6		
1906	133583	3418	25.5	533	155.9	2263	16.9	415	107	37	2193	16.4		

* Rates in Columns 4, 8, and 13 calculated per 1,000 of estimated population.

NOTE.—The deaths to be included in Column 7 of this table are the whole of those registered during the year as having actually occurred within the district or division. The deaths to be included in Column 12 are the number in Column 7, corrected by the subtraction of the number in Column 10 and the addition of the number in Column 11.

By the term "Non-residents" is meant persons brought into the district on account of sickness or infirmity, and dying in public institutions there; and by the term "Residents" is meant persons who have been taken out of the district on account of sickness or infirmity and have died in public institutions elsewhere.

The "Public institutions" to be taken into account for the purposes of these tables are those into which persons are habitually received on account of sickness or infirmity, such as hospitals, workhouses, and lunatic asylums. A list of the institutions in respect of the deaths in which corrections have been made should be given on the back of this table.

Area of District in Acres (exclusive of area covered by water) At Census 1901 6978

Total population at all ages 127,626
 Number of inhabited houses 27,429
 Average number of persons per house 4.6
 At Census of 1901

Added ... 453

Total 7431
 In November, 1901, an addition was made to the Borough, viz.—Total persons 1,590

I. Institutions within the district receiving sick and infirm persons from outside the district.

Union Workhouse.
 Blackburn and East Lancashire Infirmary.
 Blackburn Infectious Diseases Hospital.

II. Institutions outside the district receiving sick and infirm persons from the district.

Lancaster Asylum.
 Whittingham Asylum.
 Winwick Asylum.
 Prestwich Asylum.

III. Other Institutions, the deaths in which have been distributed among the several localities in the district.

Workhouse, Warrington.
 Private Residence, Blackpool.
 Royal Infirmary, Liverpool.
 Royal Infirmary, Manchester.
 Cancer Hospital, Manchester.

Is the Union Workhouse within the District? Yes.

TABLE II. — Vital Statistics of Separate Localities in 1906 and previous years.

NAMES OF LOCALITIES.	1. ST. STEPHEN'S.				2. TRINITY.				3. ST. MICHAEL'S.				4. ST. JOHN'S.				5. ST. SILAS'.				6. ST. PAUL'S.				7. ST. PETER'S.			
	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births re- gistered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.
YEAR.	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d
1896	...	...	...	..	22142	700	448	145	...	...	...	...	26400	619	361	84	...	...	...	15723	435	296	84	13600	381	260	73	
1897	...	..	...	...	22364	687	515	143	...	...	...	...	27073	612	388	96	...	...	...	15636	440	333	95	13703	377	280	102	
1898	8649	266	163	52	10311	346	209	67	8104	228	129	42	8231	232	166	53	7907	179	77	9	10212	317	208	60	8466	239	207	79
1899	8762	294	175	54	10312	279	212	58	8234	246	125	36	8207	263	158	35	8118	178	118	18	10211	293	217	61	8367	191	202	40
1900	8877	250	178	57	10313	296	247	64	8367	233	164	42	8184	196	174	56	8332	158	118	17	10210	328	249	69	8270	194	266	48
1901	9001	275	162	40	10316	279	229	67	8510	243	135	27	8161	211	150	35	8581	153	133	24	10208	283	207	51	8175	189	203	45
1902	9118	232	150	39	10327	272	176	39	8650	223	139	34	8137	221	121	27	8927	157	98	11	10201	288	176	44	8082	169	181	31
1903	9243	218	126	27	10339	252	161	49	8805	205	118	20	8114	209	142	37	9198	187	107	23	10194	272	155	44	7986	176	138	32
1904	9359	209	148	37	10344	265	195	51	8953	219	116	29	8091	201	125	32	9452	147	134	19	10188	266	201	67	7894	165	161	38
1905	9475	237	160	37	10352	235	162	43	9098	224	141	31	8068	170	110	24	9716	159	113	12	10181	260	189	40	7802	183	178	24
1906	9587	267	159	42	10359	295	207	50	9293	248	132	33	8045	192	116	27	9971	185	91	18	10174	266	173	34	7712	195	180	45

NOTES —(a) The separate localities adopted for this table should be areas of which the populations are obtainable from the census returns, such as wards, parishes or groups of parishes, or registration sub-districts. Block 1 may, if desired, be used for the whole district: and blocks, 2, 3, &c. for the several localities. In small districts without recognised divisions of known population this Table need not be filled up.

(b) Deaths of residents occurring in public institutions beyond the district are to be included in sub-columns c of this table, and those of non-residents registered in public institutions in the district excluded. (See note on Table I. as to meaning of terms "resident" and "non-resident.")

(c) Deaths of residents occurring in public institutions, whether within or without the district, are to be allotted to the respective localities according to the addresses of the deceased.

(d) Care should be taken that the gross totals of the several columns in this Table respectively equal the corresponding totals for the whole districts in Tables I. and IV.: thus, the totals of sub-columns a, b, and c should agree with the figures for the year in the columns 2, 3, and 12, respectively, of Table I.: the gross total of the sub-columns c should agree with the total of column 2 in Table IV., and the gross total of sub-columns d with the total of column 3 in Table IV.

TABLE II (continued). — Vital Statistics of separate Localities in 1906 and previous years.

NAMES OF LOCALITIES.	8. ST. MARY'S.				9. ST. MATTHEW'S.				10. ST. THOMAS'.				11. PARK.				12. ST. LUKE'S.				13. ST. MARK'S.				14. ST. ANDREW'S.			
	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.	Population esti- mated to middle of each year.	Births regis- tered.	Deaths at all Ages.	Deaths under 1 year.
YEAR.	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d	a	b	c	d
1896	1995	38	48	9	...	..	...	...	...	...	...	...	33956	1025	633	155	...	...	...	...	15684	354	223	61	...	...	...	...
1897	1896	53	76	18	...	...	...	...	...	...	...	...	34597	1045	626	191	...	...	...	...	16661	420	311	107	...	...	...	..
1898	7011	195	173	61	10425	363	230	62	11767	258	174	48	8966	274	179	50	8808	279	197	64	7921	223	150	53	8652	266	166	50
1899	6991	185	217	41	10419	362	274	88	11949	282	205	58	9014	261	183	53	8809	293	204	65	7995	211	152	46	8797	305	165	53
1900	6971	164	226	47	10413	328	233	72	12136	290	223	71	9062	254	188	39	8810	287	236	80	8066	192	168	45	8940	168	190	55
1901	6952	148	190	57	10393	287	217	71	12340	306	202	58	9111	242	167	36	8811	277	210	64	8153	223	136	35	9106	270	154	46
1902	6934	173	156	24	10333	310	186	45	12572	332	210	65	9156	239	161	40	8811	249	189	45	8694	238	146	41	10019	254	158	45
1903	6912	157	146	36	10274	309	193	53	12742	318	183	42	9204	240	172	41	8812	265	155	44	9059	254	130	38	10196	242	143	37
1904	6893	136	150	31	10214	276	201	54	12938	293	216	63	9246	226	154	37	8813	237	154	45	9152	226	148	44	10371	234	171	48
1905	6874	159	153	28	10155	275	183	36	13129	303	180	40	9293	248	152	39	8814	261	168	54	9242	223	143	27	10543	256	151	32
1906	6854	163	167	42	10107	307	178	41	13331	287	172	39	9338	263	174	39	8814	236	164	53	9334	262	157	49	10718	252	123	21

! There were only Seven Wards previous to 1898.

TABLE IV.—Causes of, and Ages at, Death during the Year, 1906.

CAUSES OF DEATH.	Deaths at the subjoined ages of "Residents," whether occurring in or beyond the District.						Deaths at all ages of "Residents" belonging to Localities, whether occurring in or beyond the District.										Total Deaths whether of "Residents" or non-Residents in the District					
	All ages	Under 1 year	1 and under 5.	5 and under 15.	15 and under 25.	25 and under 65.	65 and upwards	Stephens	Trinity	Michael's	John's	Silas	Paul's	Peter's	Mary's	Matthew's		Thomas	Park	Luke's	Marks	Andrew's
Small-pox ...	2	3	4	5	6	7	8	6	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Measles ...	63	16	44	3	...	...	...	5	4	1	3	2	12	6	4	4	7	5	4	4	4	12
Scarlet fever ...	33	20	20	12	1	...	...	3	1	5	4	1	4	...	2	2	1	4	4	2	...	29
Whooping-cough ...	17	9	7	1	...	...	...	...	2	2	1	...	...	...	1	1	3	4	...	1	3	...
Diphtheria & membranous croup ...	26	2	13	11	...	...	...	1	5	2	1	...	1	...	2	4	1	1	3	1	4	5
Croup ...	5	2	3	...	...	...	...	...	1	...	1	...	1	...	1	...	...	...	...	...	1	...
Typhus ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Fever { Enteric	14	...	...	3	4	7	...	1	1	...	...	...	4	...	3	2	...	...	...	1	2	12
{ Other Continued	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Epidemic Influenza	22	1	1	2	1	12	5	1	2	1	...	1	2	2	2	2	1	2	1	4	3	1
Cholera ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diarrhoea (see notes at back) ...	171	136	21	1	2	9	2	17	19	9	7	3	14	17	15	10	17	4	22	11	6	3
Enteritis (see notes at back) ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal Fever (see notes at back) ...	5	...	...	2	...	3	...	1	...	...	...	...	2	...	...	1	1	...	...	...	...	...
Erysipelas ...	9	2	...	1	...	4	2	1	1	...	...	1	2	...	1	...	...	1	1	1	...	1
Other Septic Diseases ...	5	...	1	...	2	1	1	1	...	...	1	...	...	1	1	1	...	...	...	...	...	2
Phthisis (Pulmonary Tuberculosis) ...	124	1	7	5	27	82	2	6	12	11	8	2	12	11	8	12	6	13	12	6	5	19
Other Tubercular Diseases ...	78	19	26	16	8	9	...	4	7	7	6	1	4	7	7	9	4	11	5	5	1	10
Cancer, Malignant Disease (see notes at back) ...	108	...	...	...	...	77	31	10	8	10	8	5	12	7	7	5	9	11	5	7	4	19
Bronchitis ...	178	33	14	1	...	59	71	11	18	6	8	5	14	20	14	16	19	7	21	10	9	41
Pneumonia ...	180	36	36	7	12	62	27	14	20	8	12	5	13	20	12	16	14	20	8	8	10	15
Pleurisy ...	4	...	...	1	...	3	...	...	...	...	...	...	1	...	...	2	1	...	...	...	...	...
Other Diseases of Respiratory Organs ...	4	...	...	...	...	3	1	1	...	...	...	1	1	...	...	...	...	1	...	...	...	...
Alcoholism } Cirrhosis of Liver }	28	...	...	...	...	23	5	2	3	3	1	...	1	1	6	2	2	2	4	1	...	8
Venereal Diseases	4	4	...	...	...	...	...	...	1	...	1	...	...	...	...	1	...	...	...	1	...	...
Premature Birth ...	72	72	...	...	...	...	...	5	5	6	4	7	5	3	6	8	3	6	3	9	2	1
Diseases and Accidents of Parturition	13	...	...	...	...	13	...	...	...	3	3	...	1	2	...	...	1	...	1	2	...	4
Heart Diseases ...	186	1	...	9	8	106	62	7	20	10	10	11	9	9	13	14	17	14	16	18	18	24
Accidents ...	49	5	6	3	4	18	13	8	6	2	...	3	1	3	6	5	3	5	5	3	1	30
Suicides ...	18	...	...	...	1	15	2	1	3	...	3	1	1	1	1	1	2	1	...	...	3	2
Homicide ...	2	1	1	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	2
All other Causes ...	775	193	39	19	29	244	251	59	68	46	34	42	56	69	57	60	60	65	48	64	47	175
All Causes ...	2193	533	239	95	101	750	475	159	207	132	116	91	173	180	167	178	172	174	164	157	123	...

TABLE V.—INFANTILE MORTALITY DURING THE YEAR 1906.
DEATHS FROM STATED CAUSES IN WEEKS AND MONTHS UNDER ONE YEAR OF AGE.

CAUSE OF DEATH.	ALL CAUSES.		Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under 1 Month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10-11 Months	11-12 Months	Total Deaths under One Year.	
	Certified	Uncertified	88	18	30	17	153	51	44	48	28	24	30	28	29	25	24	24	508	
Common Infectious Diseases.	Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chicken-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Measles	...	...	...	...	...	...	...	...	...	...	1	2	4	1	3	4	16	
	Scarlet Fever...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Diphtheria: Croup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Whooping Cough	1	1	2	1	20	13	11	9	10	8	4	7	8	136
Diarrhoeal Diseases.	Diarrhoea, all forms	...	1	2	7	7	17	18	11	20	13	11	9	10	8	4	7	8	136	
	Enteritis (<i>not Tuberculous</i>)	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Wasting Diseases.	Gastritis, Gastro-intestinal Catarrh...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Premature Birth	...	53	7	3	1	64	5	3	...	...	...	...	...	...	...	...	...	72
	Congenital Defects	...	5	1	2	...	8	1	...	...	2	...	...	2	..	1	1	...	15
	Injury at Birth	...	1	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...	1
	Want of Breast-milk...
	Atrophy, Debility, Marasmus	...	9	4	10	3	26	9	12	6	6	2	2	2	3	5	3	1	71	
Tuberculous Diseases.	Tuberculous Meningitis	...	...	...	...	...	1	...	1	1	...	1	1	...	...	...	...	...	5
	Tuberculous Peritonitis: Tabes Mesenterica	...	...	...	...	...	...	...	2	3	3	...	4	1	...	1	...	...	14
	Other Tuberculous Diseases	...	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	1
	Erysipelas	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	2
	Syphilis	...	1	...	...	...	1	1	...	2	...	...	...	...	...	...	...	...	4
	Rickets	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	1	...	3
Other Causes.	Meningitis (<i>not Tuberculous</i>)	...	...	...	...	...	...	...	1	...	...	...	...	1	1	1	1	1	6
	Convulsions	...	14	4	3	...	21	4	3	1	1	1	1	...	2	...	...	1	35
	Bronchitis	...	1	...	1	...	4	3	4	3	1	2	5	2	5	...	3	1	33	
	Laryngitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Pneumonia	...	...	...	...	...	2	2	4	6	...	1	2	2	6	5	3	3	36
	Suffocation, overlaying	...	...	1	1	...	2	1	...	...	1	...	...	...	...	...	...	...	4
Other Causes...	...	16	...	1	1	18	5	5	4	4	4	5	5	4	5	5	4	68		
			101	19	30	17	167	52	46	48	29	24	31	30	32	25	24	25	533	

District (or sub-division) of Blackburn.

Population, estimated to middle of 1906 - 133,583.

Births in the year } legitimate - - 3284
 } illegitimate - - 134

Deaths in the year of { legitimate infants - 487
 } illegitimate infants - 46

Deaths from all Causes at all Ages - 2193

NOTES TO TABLES IV. AND V.

(A) In Table IV., all deaths of "Residents" occurring in public institutions whether within or without the district, are to be INCLUDED with the other deaths in the columns for the several age groups (columns 2-8). They are also, in columns 9-15, to be INCLUDED among the deaths in their respective "Localities" according to the previous addresses of the deceased as given by the Registrars. Deaths of "Non-Residents" occurring in public institutions in the district are in like manner to be EXCLUDED from columns 2-8 and 9-15 of Table IV.

(B) SEE notes on Table I. as to the meaning of "Residents" and "Non-Residents," and as to the "Public Institutions" to be taken into account for the purposes of these Tables. The "Localities" in Table IV. should be the same as those in Tables II. and III.

(C) All deaths occurring in public institutions situated within the district, whether of "Residents" or of "Non-Residents," are, in addition to being dealt with as in note (A), to be entered in the last column of Table IV. The total number in this column should equal the figures for the year in column 9, Table I.

(D) The total deaths in the several "Localities" in columns 9-15 of Table IV. should equal those for the year in the same localities in Table II., sub-columns c. The total deaths at all ages in column 2 of Table IV. should equal the gross total of columns 9-15, and the figures for the year in column 12 of Table I.

(E) Under the heading of "Diarrhoea" are to be included deaths registered as due to Epidemic diarrhoea, Epidemic enteritis, Infective enteritis, Zymotic enteritis, Summer diarrhoea, Dysentery and Dysenteric diarrhoea; Choleraic diarrhoea, Cholera and Cholera Nostras.

In addition, and as regards deaths of children UNDER ONE YEAR OF AGE, under the heading "Diarrhoea" in column 3 (Table IV.) are to be included all deaths classified as "Diarrhoeal diseases" in Table V.

Under the heading of "Enteritis" in Table IV., are to be included only deaths OVER ONE YEAR OF AGE registered as due to Enteritis, Muco-enteritis, Gastro-enteritis, Gastric catarrh, Gastritis, and Gastro-intestinal catarrh, unless from information obtained by enquiry from the certifying practitioner or otherwise, the Medical Officer of Health should have reason for including such deaths under the specific term "Diarrhoea." Deaths from diarrhoea secondary to some other well-defined disease should be included under the latter.

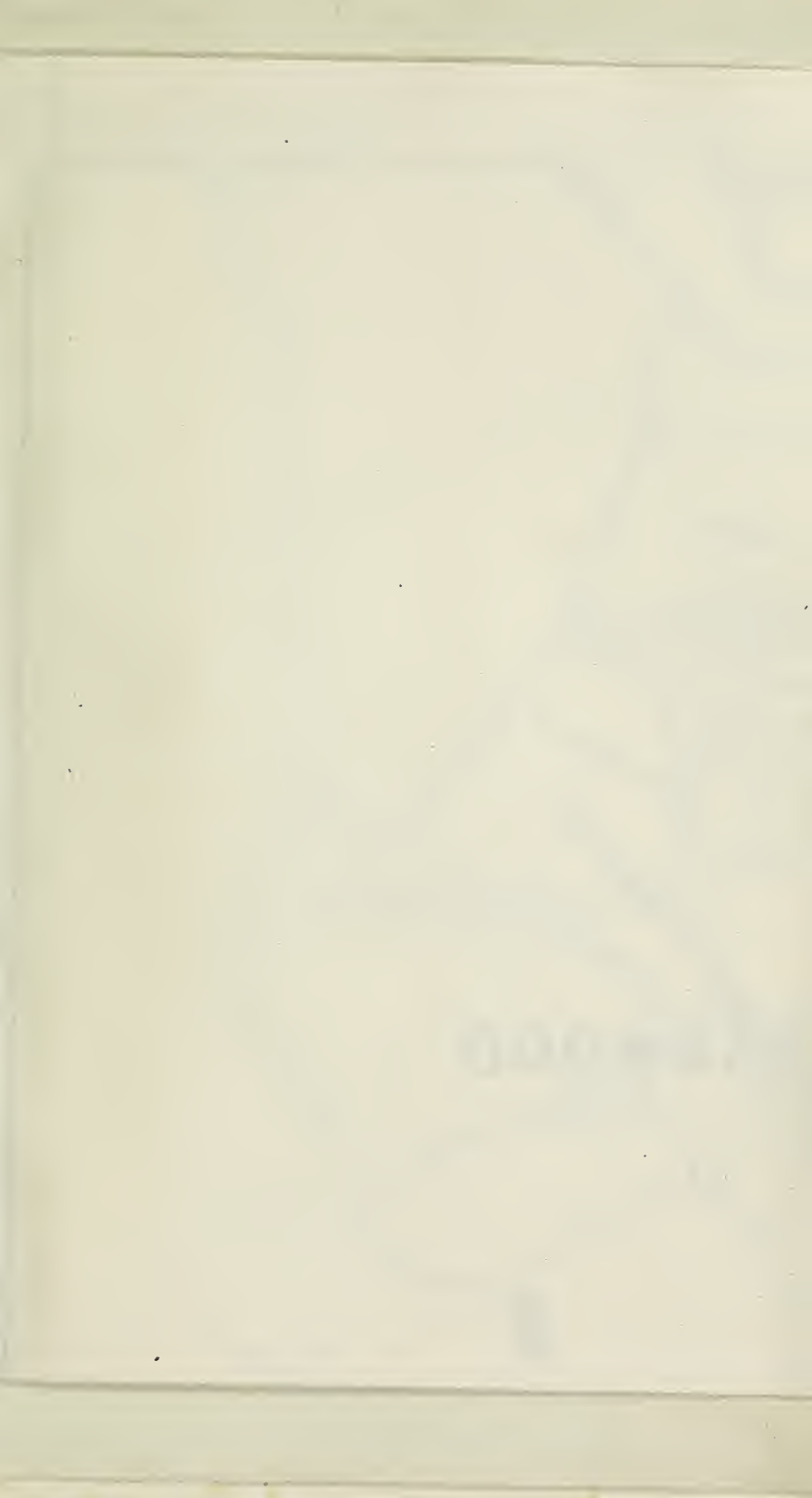
(F) Under the headings of "Cancer" and "Puerperal fever" should be included all registered deaths from causes comprised within these general terms. Thus: Under "Cancer" should be included deaths from Cancer, Carcinoma, Malignant disease, Scirrhus, Epithelioma, Sarcoma, Villous tumour, and Papilloma of bladder, Rodent ulcer. Under "Puerperal Fever" are to be included deaths from Pyæmia, Septicæmia, Sapræmia, Pelvic peritonitis, Peri- and Endo-Metritis occurring in the Puerperium.

(G) Under "Congenital Defects" in Table V. are to be included deaths from Atelectasis, Icterus neonatorum, Navel hæmorrhage, Malformations, and Congenital hydrocephalus.

(H) Under "Tuberculous Meningitis" are to be included deaths from Acute hydrocephalus.

(I) Under "other Tuberculous Diseases" are to be included deaths from Tuberculosis, Tuberculosis of bones, joints and other organs, Lupus and Scrofula.

(J) All deaths certified by registered Medical Practitioners and all inquest cases are to be classed as "Certified"; all other deaths are to be regarded as "Uncertified."



BLACKBURN.

REGISTRATION SUB-DISTRICTS.

Typhoid Infected Houses •



COUNTY BOROUGH OF BLACKBURN

DEATH RATES IN

Enumeration Districts.

